TOSHIBA

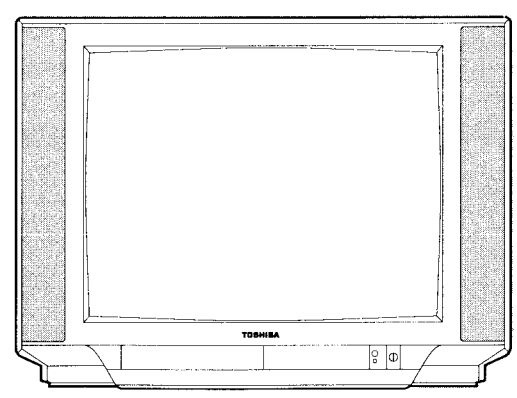
FILE NO. 030-9530

SERVICE MANUAL

COLOUR TELEVISION

C5SS Chassis

2857DD



PRINTED IN JAPAN, Dec., 1995 (So)

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 31.5 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 32.0 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
   For continued safety, replacement component should only be made after referring the Product Safety Notice below.

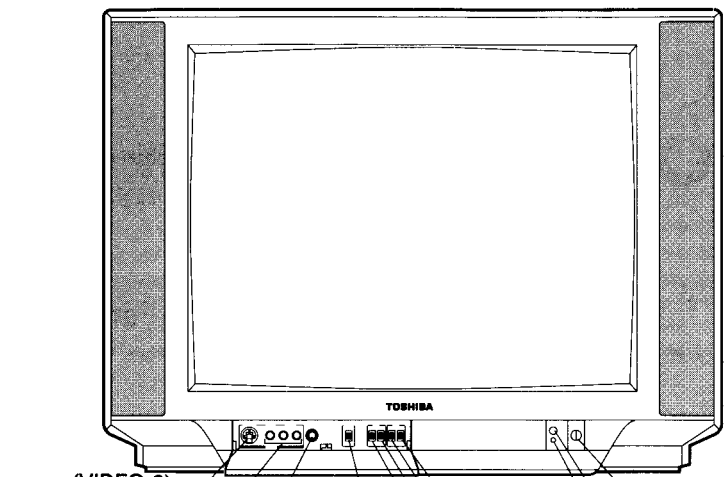
SAFETY PRECAUTION

1. This receiver has a nominal working E.H.T. voltage of 28.5 kV. Extreme caution should be exercised when working on the receiver with the back removed.
   Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
   When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap
   The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
   Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
4. Replace blown fuses within the receiver with the fuse specified in the parts list.
5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
6. Keep wires away from high temperature components.

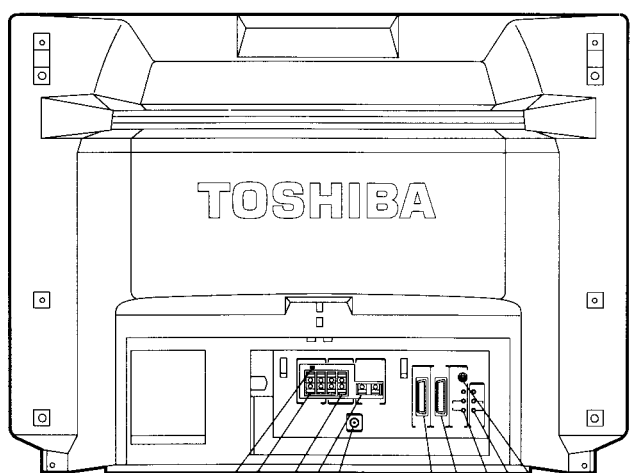
PRODUCT SAFETY NOTICE

Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

FRONT CONTROLS AND REAR VIEWS

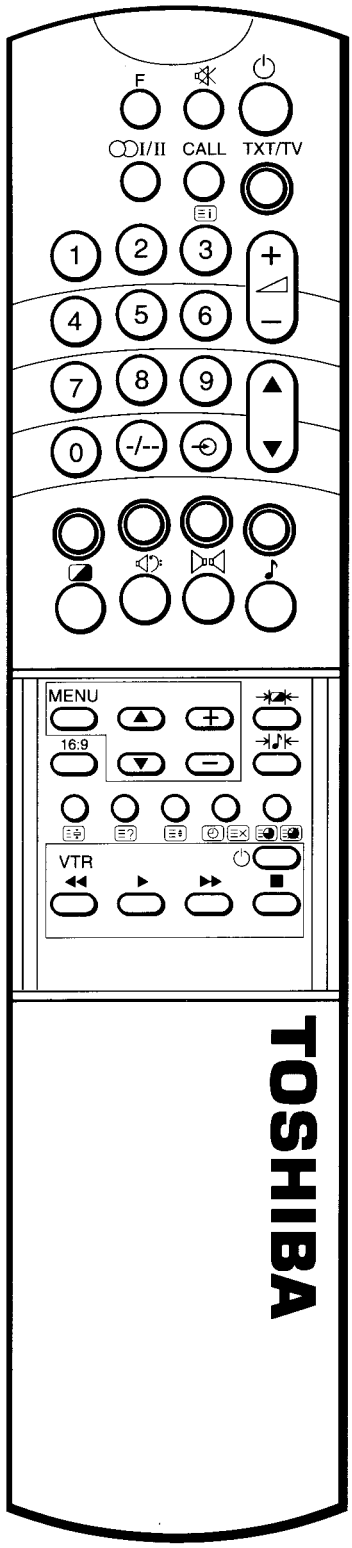


(VIDEO-3)
S-VIDEO TERM.
VIDEO-3
HEAD PHONE
MAIN SW.
POWER IND.
ON-TIMER IND.
POSITION UP
POSITION DOWN
VOLUME UP
VOLUME DOWN
MENU



EXT. SPK SW.
EXT. SPK TERM. (MAIN)
EXT. SPK TERM. (SURROUND)
EXT. SPK TERM. (CENTRE)
AERIAL TERMINAL
(VIDEO-3)
S-VIDEO TERM.
MONITOR OUT
VIDEO-3 (COMMON WITH FRONT TERM.)
21-PIN SOCKET 2 (S-VIDEO/AV)
21-PIN SOCKET 1 (FULL)

REMOTE HAND HELD UNIT



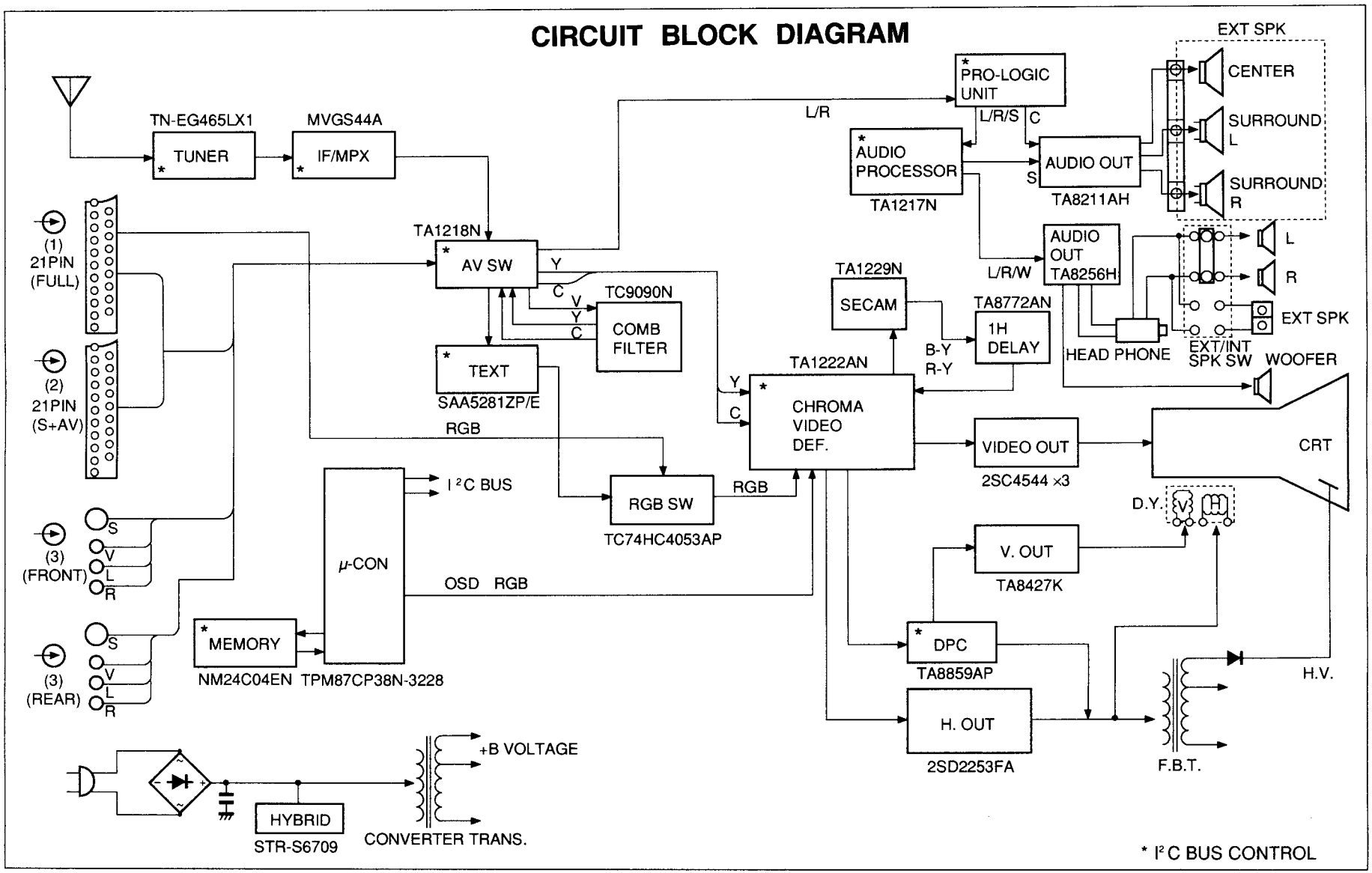
CT-9763

KEY ASSIGNMENT

- ⏻ ..... ON/STAND-BY
- 🔇 ..... Sound mute
- F ..... (Quick/advanced operation)
- CALL (On-screen call)/ ⓘ (index, initial) ..... TELETEXT MODE
- ◪ ..... PICTURE MENU
- ♪ ..... SOUND MENU
- I/II..... <TV MODE> ····· STEREO BILINGUAL
- 1~9, 0 ... TEN KEY
- - / - - ..... 1 or 2 place
- ⊖ ..... VIDEO INPUT (EXTERNAL INPUT SOURCE SW.)
- ◿ ..... VOLUME
- \+ ..... LEVEL PLUS (VOLUME, MENU)
- − ..... LEVEL MINUS (VOLUME, MENU)
- ▲ ..... UP (POSI., CH., TEXT PAGE)
- ▼ ..... DOWN (POSI., CH., TEXT PAGE)
- TELE-TEXT
  - TXT/TV..... TEXT, MIX, TV MODE SW.
  - ⓘ+ ..... HOLD
  - ⓘ? ..... <TEXT MODE> ..... REVEAL / CONCEAL
  - ⓘ ..... <TEXT MODE> ..... F-T-B (FULL, TOP, BOTTOM)
  - ⏲/⊠ ..... TIME DISPLAY (TV MODE) TEXT CLEAR (TEXT MODE)
  - FLOF COLOUR KEY (4 key used) Red/Green/Yellow/Blue
- 🔊 ..... Super woofer
- ⋈ ..... Sound mode select
- ◪← ..... Selectable picture
- ♪← ..... Selectable sound
- MENU..... TUNING & OTHER MENU
- ⊙ / ⊙ .. Menu select
- ⊖ / ⊕ .. Level down/up
- 16:9..... PIC SIZE (Picture size select)

VTR control

- ⏻ Power on/standby
- ▶ Play
- ■ Stop
- ◀◀ Rewind
- ▶▶ Fast forward


CIRCUIT BLOCK DIAGRAM
TN-EG465LX1
TUNER
MVGS44A
IF/MPX
TA1218N
AV SW
TC9090N
COMB FILTER
TEXT
SAA5281ZP/E
RGB
(1) 21PIN (FULL)
(2) 21PIN (S+AV)
(3) (FRONT)
(3) (REAR)
S
V
L
R
μ-CON
I²C BUS
OSD RGB
MEMORY
NM24C04EN
TPM87CP38N-3228
RGB SW
TC74HC4053AP
RGB
TA1222AN
CHROMA VIDEO DEF.
Y
C
TA1229N
SECAM
B-Y
R-Y
TA8772AN
1H DELAY
L/R
PRO-LOGIC UNIT
L/R/S
C
AUDIO PROCESSOR
TA1217N
S
AUDIO OUT
TA8211AH
L/R/W
AUDIO OUT TA8256H
EXT SPK
CENTER
SURROUND L
SURROUND R
L
R
EXT SPK
HEAD PHONE
EXT/INT SPK SW
WOOFER
VIDEO OUT
2SC4544 ×3
CRT
D.Y.
V. OUT
TA8427K
DPC
TA8859AP
H. OUT
2SD2253FA
F.B.T.
H.V.
HYBRID
STR-S6709
CONVERTER TRANS.
+B VOLTAGE
* I²C BUS CONTROL

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials. Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least 30 minutes in order that the automatic degaussing circuit operates properly. Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 32.0 kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 32.0 kV under any conditions.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS. (T461) for well defined scanning lines in the centre area on the screen.,

SERVICE MODE GENERAL INSTRUCTIONS

1. ENTERING TO SERVICE MODE

1) Press ✲ button once on Remote Control.

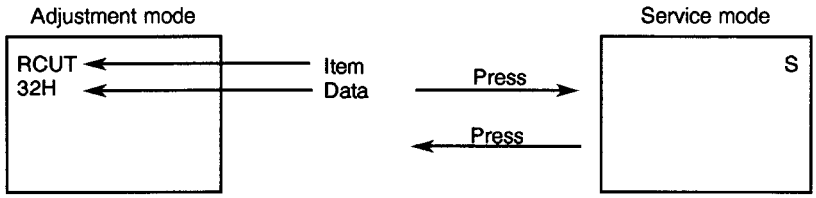
2) Press ✲ button again to keep pressing.

3) Keep pressing the ✲ button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

Every pressing of CHANNEL ▲ button changes the adjustment items in the following order. (▼ button for reverse order.)

4. ADJUSTING THE DATA

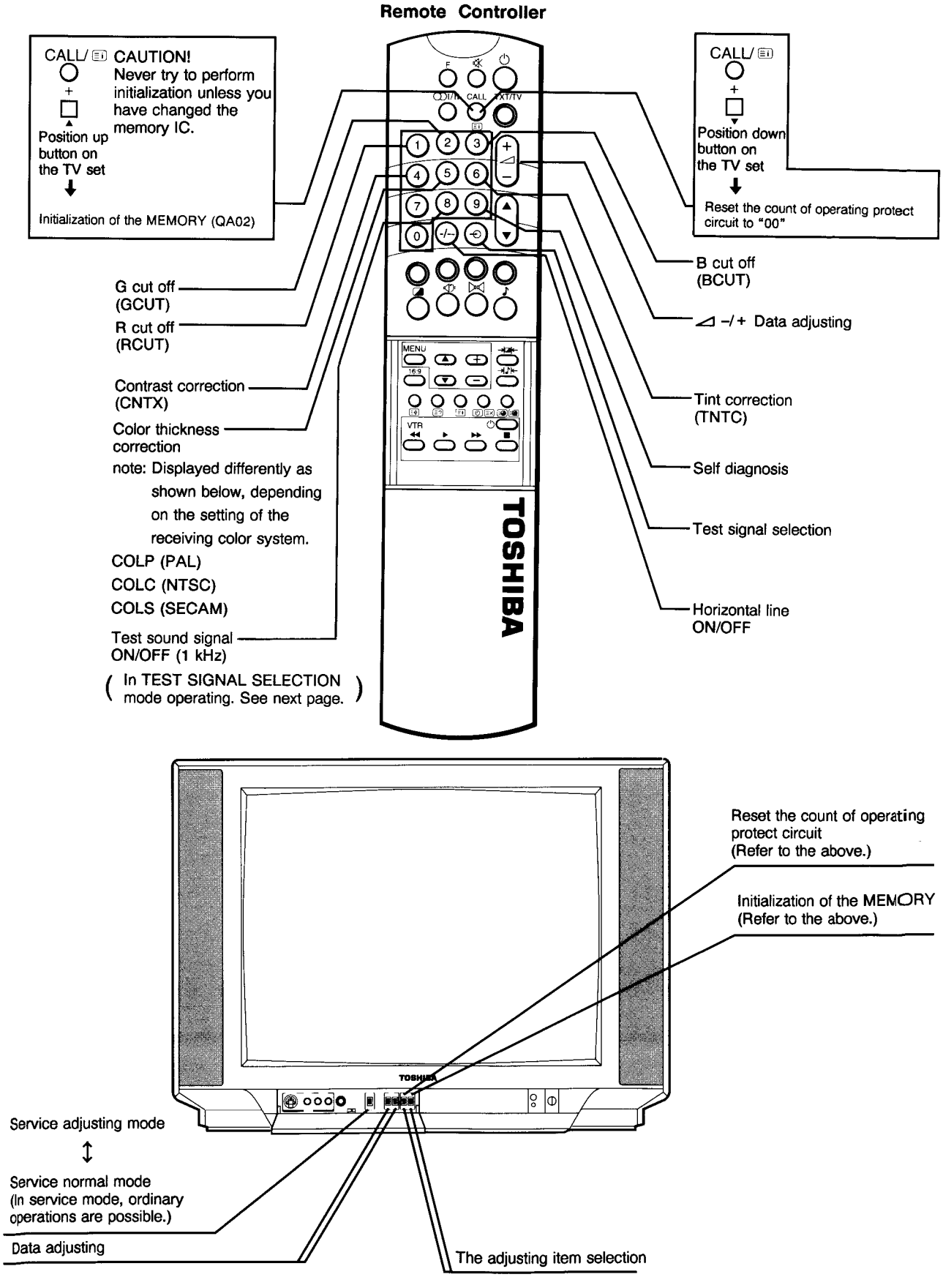
Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00 to FF. The variable range depends on the adjusting item.

5. EXIT FROM SERVICE MODE

Press POWER button to turn off the TV once.

OTHER SERVICE FUNCTION

The following key entry during display of adjustment menu provides special functions.


Remote Controller
CALL/ ▭
○
+
□
Position up button on the TV set
CAUTION! Never try to perform initialization unless you have changed the memory IC.
Initialization of the MEMORY (QA02)
CALL/ ▭
○
+
□
Position down button on the TV set
Reset the count of operating protect circuit to "00"
G cut off (GCUT)
R cut off (RCUT)
Contrast correction (CNTX)
Color thickness correction
note: Displayed differently as shown below, depending on the setting of the receiving color system.
COLP (PAL)
COLC (NTSC)
COLS (SECAM)
Test sound signal ON/OFF (1 kHz)
(In TEST SIGNAL SELECTION mode operating. See next page.)
B cut off (BCUT)
◿ -/+ Data adjusting
Tint correction (TNTC)
Self diagnosis
Test signal selection
Horizontal line ON/OFF
TOSHIBA
Reset the count of operating protect circuit (Refer to the above.)
Initialization of the MEMORY (Refer to the above.)
Service adjusting mode
↕
Service normal mode (In service mode, ordinary operations are possible.)
Data adjusting
The adjusting item selection

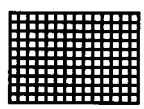
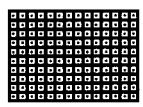
TEST SIGNAL SELECTION

Every pressing of ⊕ button changes the test patterns on screen as described below in SERVICE MODE.

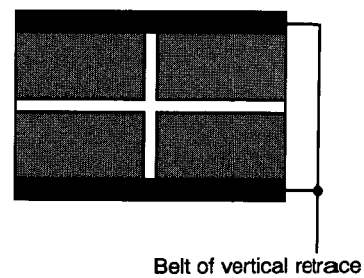
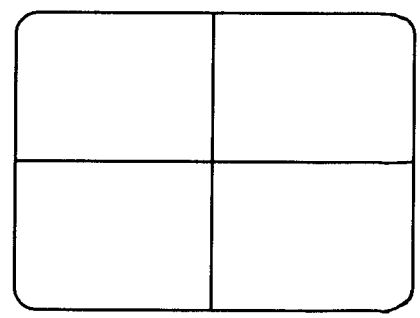
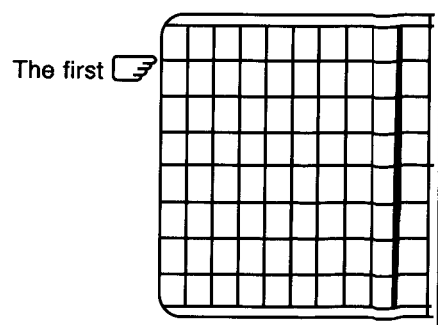
Signal off → NTSC signals (14 patterns)

↑ PAL signals (14 patterns) ←

- About inside signal: The inside signal is output at video input terminal from QA01, and is not output with the pin inserted into terminal. (Single color signal can be output.)

Signals	Picture	Using method
• Red single color • Green single color • Blue single color • Black single color • White single color		Purity and White uniformity of CRT Red single color. . . . Stopping G and B output of Q501 Green single color. . . . Stopping R and B output of Q501 Blue single color. . . . Stopping R and G output of Q501 Black single color. . . . Making black signal of approx. 1Vp-p in QA01 White single color. . . . Making white signal of approx. 1Vp-p in QA01
• W/B adjustment		White balance adjustment White part. . . . White balance adjustment/check in light area Black part. . . . White balance adjustment/check in dark area ※ Making approx. 1Vp-p signal in QA01.
• Black cross-bar • White cross-bar		Picture position (horizontal, vertical and slant) in CRT adjustment ※ Making approx. 1Vp-p signal in QA01.
• Black cross-hatch • White cross-hatch		Convergence and vertical amplitude adjustment ※ Making approx. 1Vp-p signal in QA01.
• Black cross-dot • White cross-dot		Convergence adjustment ※ Making approx. 1Vp-p signal in QA01.
• H signal (Left, right, white) • H signal (Left, right, black)		For checking (of purity drift) of white uniformity of CRT H signal (Left, right, white). . . . Check in light area H signal (Left, right, black). . . . Check in dark area The adjustment will be the best, if the time when unevenness of color in light area occurs, is a little longer than that in dark area. ※ Making approx. 1Vp-p signal in QA01.

SERVICE MODE ADJUSTMENT

ITEM	ADJUSTMENT PROCEDURE
INITIALIZATION OF QA02 (MEMORY)	After replacing QA02, the following initialization is required. 1. Call up the adjustment mode display following the steps 1 and 2 on page 7. 2. Press the CALL button on the Remote Control and CHANNEL ▲ buttons on the TV set simultaneously. The initialization of QA02 has been completed. 3. Check the picture carefully. If necessary, adjust any adjustment item. Perform "AUTOMATIC SEARCH MEMORY".
SUB-BRIGHTNESS (Address : BRTC) Note: Constrict the picture height until the vertical retrace line appears adjusting the address HIT (HEIGHT).	1. Set CONTRAST to "00", and BRIGHTNESS to "50" by adjusting user controls. 2. Set the TV in service mode to get white cross-bar of inside pattern. 3. Select BRTC (brightness correction), and adjust the ◿ – / + button to reduce the value so that white portion of inside pattern slightly light. 4. Adjust ◿ – / + button to increase the data value of BRTC, and set it just before the difference between the belt of vertical retrace and the border of black portion of inside pattern is visible. After that, return vertical height and contrast.  Belt of vertical retrace
HORIZONTAL POSITION ADJUSTMENT (HPOS) VERTICAL POSITION ADJUSTMENT (VPOS)	1. Set the TV in service mode, and get black or white cross-bar signal with VIDEO button on remote hand unit. 2. Select either HPOS (Horizontal picture phase) or VPOS (Vertical picture phase) with CHANNEL ▲, ▼ buttons, and adjust horizontal or vertical picture position in the center of screen with VOLUME ◿ – / + buttons. 
VERTICAL AMPLITUDE ADJUSTMENT (HIT)	1. Set the TV in service mode, and get black or white cross-hatch signal with VIDEO button on remote hand unit. 2. Select HIT (Vertical amplitude) with CHANNEL ▲, ▼ buttons, and adjust vertical amplitude with VOLUME ◿ – / + buttons so that vertical amplitude lacks a little. 3. Adjust vertical amplitude with VOLUME ◿ – / + buttons so that the first bar on cross-hatch signal touches edge of screen.  The first

ITEM	ADJUSTMENT PROCEDURE
WHITE BALANCE ADJUSTMENT • CUTOFF ADJUSTMENT (RCUT) (GCUT) (BCUT) • DRIVE ADJUSTMENT (GDRV) (BDRV)	1. Set Contrast to 40, and brightness to +20 by picture control. 2. Set the TV in service mode, and get the inside W/B adjusting signal with VIDEO button (see pages 7, 9.). 3. Select RCUT, GCUT and BCUT with CHANNEL ▲, ▼ buttons, to set individual values to 32, and to set GDRV and BDRV to 20 with VOLUME ◿ – / + buttons. 4. Press -/- - button on the remote control and rotate Screen VR to get one slight horizontal line on screen. Note: Every pressing of -/- - button provides Horizontal line picture and Normal picture alternately. 5. Press -/- - button to release horizontal line picture, and select the two other colors which did not light in the above step with CHANNEL ▲, ▼ buttons. Then tap VOLUME ◿ – / + buttons so that three colors slightly light in the same level. ※ To correct white balance in light area, select GDRV and BDRV with CHANNEL ▲, ▼ buttons to adjust. ※ To correct white balance in dark area, perform fine adjustment of RCUT, GCUT and BCUT. Light area check (to show white) Dark area check (to show black)

SELF DIAGNOSTIC FUNCTION

1) Press "9" button on Remote Control during display of adjustment menu.
   The diagnosis will begin to check if interface among IC's are executed properly.
2) During diagnosis, the following displays are shown.

```
⟨SELF CHECK⟩
①  23905310
②  POWER    :  00
③  BUS LINE  :  OK
④  BUS CONT  :  OK
⑤  BLOCK     :  UV V1 V2
                QV01
```

① Part number of microcomputer (QA01)
② Operation number of protecting circuit ----"00" is normal.
When indication is other than "00", overcurrent apts to flow, and circuit parts may possibly be damaged.
③ BUS LINE CHECK ----"OK" is normal.
"SDA1–GND" means that SDA line is shorted to ground.
"SCL1–GND" means that SCL line is shorted to ground.
"SCL1–SDA1" means that SDA line is shorted to SCL line.
④ BUS CONT ----"OK" is normal.
When indication shows "QOOO NG", the device with the number may possibly be damaged.

⑤ BLOCK
UV : TV reception mode
V1 : VIDEO 1 input mode (⊕ 1)
V2 : VIDEO 2 input mode (⊕ 2)

Indicated color of mode now selected : Green and Red
Indicated color of other modes : White

Green : Normal
Red : The microcomputer operates to provide judgement of no video signal. The red color is still indicated though the signal is input, failure may exist in input signal line including QV01.
QV01 : In case of indication green ---Normal
In case of indication red with input signal----
Failure may exist in output line including QV01.

ADJUSTMENT OF VIDEO-CHROMA SYSTEM (Factory adjustment)

Model Name: C5SS

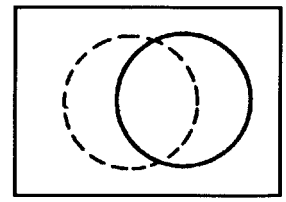
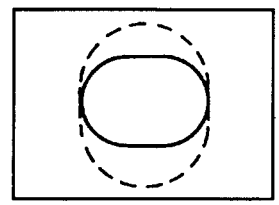
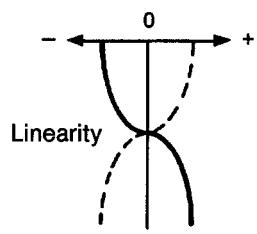
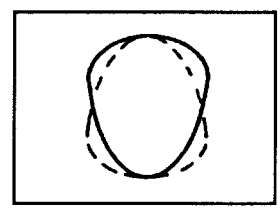
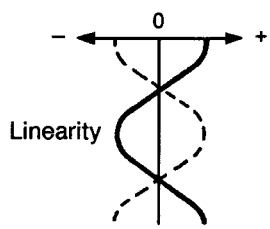
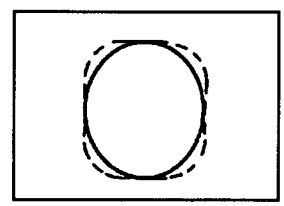
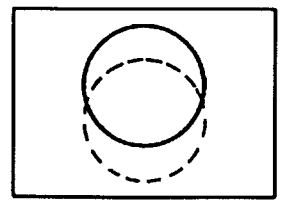
Item	Name	Setting (User control)	Input signal	Measure-ment point	Adjustment procedure	Adjustment standard
[COLP]	SUB COLOR PAL	Contrast: MAX Bright : CENTER Color : CENTER	Sub-bright signal (PAL)	IC501 #55 (TP501)	1. Select slave address 0CH [COLP]. 2. When [COLP] is selected, Y-signal is muted and only color signals are outputted. 3. Adjust amplitude of the upper half of the color bar output.	1.35V(p-p) ±0.2V(p-p)
[RCUT] [GCUT] [BCUT] Screen VR	R cut-off G cut-off B cut-off Screen	RCUT, GCUT, BCUT) 40 Hexa-decimal GDRV, BDRV) 40 Hexa-decimal Select horizontal line mode by pressing -/- - button on the remote control in service mode.		Screen adjustment	1. Set the controls as shown in the left column. 2. Gradually increase the screen VR (T461) until one of R, G or B line begins to brighten slightly. 3. Determine the position of the screen VR here. 4. Adjust RCUT, GCUT and BCUT, brighten other lines until they begin to light slightly. (Adjust DATA so that the line becomes almost white.) 5. Press -/- - button on the remote control to escape from the horizontal line mode.	–
[RCUT] [GCUT] [BCUT] [GDRV] [BDRV]	R cut-off G cut-off B cut-off G drive B drive (White balance)	Contrast: MAX Bright : CENTER Color : CENTER	White, etc.	Screen adjustment	1. This adjustment must be done after adjustment of the above-mentioned cut-off and screen VR's have been completed. 2. Adjust cut-off and drive DATA alternately. 3. Use a checker to adjust brightness by changing modulation factor.	HIGH LIGHT; (103cd/m³) 7195K –0.005uv DARK; (17cd/m³) 7695K ± 0uv
[BELL]	BELL filter		SECAM color bar	QQ01 #21 (TPM01)	Vary [BELL] so that waveform becomes flat on scope.	100 ± 10%
[SRY]	SECAM R-Y black label	Dynamic mode	SECAM color bar	Q501 #55 (TP501)	Vary [SRY] so that level of B/W signal part matches to that of H.BLK on scope.	0 ± 40mV
[SBY]	SECAM R-Y black label	Dynamic mode	SECAM color bar	Q501 #55 (TP501)	Vary [SBY] so that level of B/W signal part matches to that of H.BLK on scope.	0 ± 40mV
[COLS]	Sub-color center SECAM	Dynamic mode	SECAM color bar	Q501 #55 (TP501)	Adjust amplitude of color bar. (Set the video mute during adjustment.)	3.5 ± 0.2V(p-p)

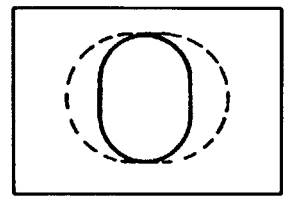
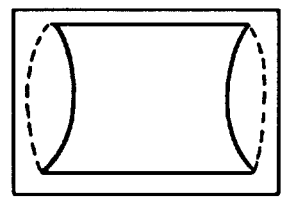
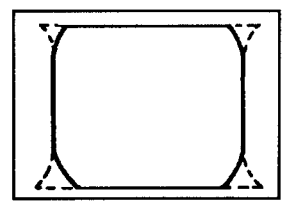
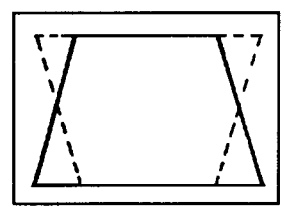
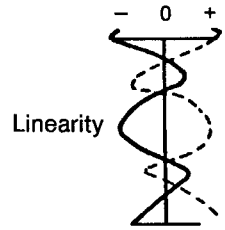
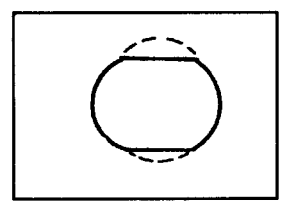
ADJUSTMENT PROCEDURE

Model name: C5SS (2857DD)

Adjustment parts or Bus control item	Input point/ Output point	Adjustment signal	Adjustment conditions and procedures
: Horizontal amplitude adjustment (WID) : Pin distortion compensation amount adjustment (PARA) : Keystone distortion compensation amount adjustment (HCP)	Visual check of picture (Bus control)	WG Philips pattern Do not use the Philips pattern of FRANCESECAM.	1. Conditions: After V. HEIGHT, VERT POSITION and H. CENT have been adjusted, set the controllers as follows: Contrast: MAX Brightness: Center Color: Center 2. Adjustment procedure a. Adjust the horizontal amplitude by the sub address WID. Adjust so that the left and right white flags of Philips pattern disappear at the very limits. b. Make the left and right vertical bars straight by the sub address PARA. c. Compensate the key distortion by the sub address HCP. d. Again, adjust the sub address WID.

SUB DATA ADDITIONAL DESCRIPTION

Symbol	Description
HPOS	H screen position correction. 
HIT	V amplitude adjustment. 
VLIN	V linearity correction 1.   Linearity balance between top and bottom screen.
VSC	V linearity correction 2.   Linearity balance between top/bottom and center.
VPOS VPS	V picture position adjustment. 

Symbol	Description
VCP	Setting of amount of V amplitude correction against variation of screen brightness.
WID	H amplitude adjustment. 
PARA	H pin-cushion distortion correction. 
CNR	H pin-cushion distortion correction at four corners. 
TRAP	Pedestal distortion correction. 
HCP	Setting of amount of H amplitude correction against variation of screen brightness.
VFC	V linearity correction. Linearity balance at 1/4, 3/4 areas from top.  

MULTI BUS E2PROM ADDRESS, ADJUSTING ADDRESS TABLE

Adjusting method	QA02 memory address	Name of item	Value of initializing QA02 (Hexa-decimal)	Adjustments
F	03H	RCUT	40H	R CUTOFF (B/W)
↓	04H	GCUT	40H	G CUTOFF (B/W)
↓	05H	BCUT	40H	B CUTOFF (B/W)
↓	06H	GDRV	40H	G DRIVE
↓	07H	BDRV	40H	B DRIVE
S	08H	CNTX	7FH	SUB CONTRAST MAX (4:3 MODE)
F	09H	BRTC	7FH	SUB BRIGHT CEN
↓	0AH	COLC	50H	SUB COLOR CEN NTSC
↓	0BH	TNTC	40H	SUB TINT CEN
↓	0CH	COLP	50H	SUB COLOR CEN PAL
↓	0DH	COLS	2EH	SUB COLOR CEN SECAM
S	0EH	SCOL	8FH	SUB COLOR
↓	0FH	SCNT	7FH	SUB CONTRAST
↓	25H	VOLS	00H	VOL SCART
↓	26H	FVOL	00H	FM VOL PRE SCALE
↓	27H	NVOL	00H	NICAM VOL PRE SCALE
↓	28H	NICL	00H	NICAM THRESHOLD LEVEL
↓	29H	NICH	00H	NICAM THRESHOLD LEVEL
↓	2AH	IDL	00H	IGR THRESHOLD LEVEL
↓	2BH	IDH	00H	IGR THRESHOLD LEVEL
↓	2CH	EVOL	00H	EXT PRE. VOLUME
↓	2DH	EMX	FCH	NICAM ON LEVEL
↓	2EH	EMN	64H	NICAM OFF LEVEL
↓	2FH	FMA	00H	FM ATTENUATOR LEVEL
↓	30H	STS	00H	STEREO SEPARATION
F	31H	HPOS	15H	50Hz H-POSITION
↓	32H	VPOS	04H	V-POSITION
↓	33H	HIT	3EH	HEIGHT
↓	37H	VLIN	11H	V-LINEARITY
↓	38H	VSC	0FH	V-S CORRECTION
↓	39H	VPS	0EH	V-SHIFT
↓	3AH	VCP	06H	V-COMPENSATION
F	3BH	WID	0FH	PICTURE WIDTH
F	3CH	PARA	2AH	E-W PARABOLA
S	3DH	CNR	06H	E-W CORNER
↓	3EH	TRAP	1FH	TRAPEZIUM
↓	3FH	HCP	02H	H-COMPENSATION
↓	40H	VFC	0EH	V-F CORRECTION
↓	C9H	BELL	00H	SECAM BELL FILTER
↓	CAH	SRY	08H	SECAM R-Y
↓	CBH	SBY	08H	SECAM B-Y

S ... semi-fixed data area which is fixed by model. (Do not adjust in field service.)

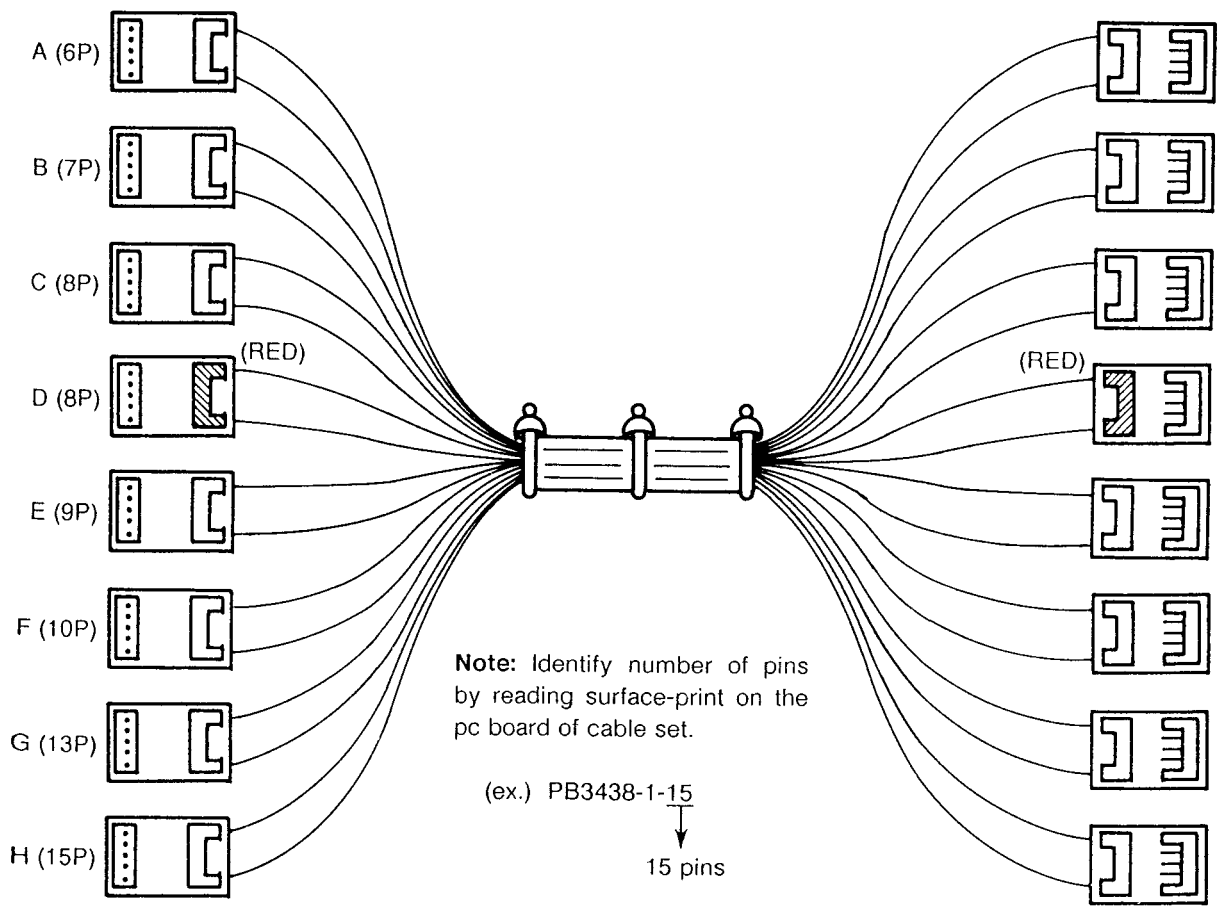
F ... This item may require adjustments by models after initialization, when QA02 is replaced.

EXTENSION CABLE SET

1. Extension Cable Set is available for servicing modules.
   For C5SS chassis, however, this cable is used only for PRO-LOGIC, TELETEXT/RGB and COMB FILTER modules. (See reference table on next page.)

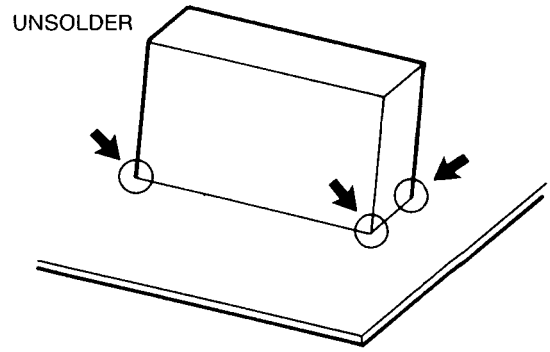
2. Identify number of pins by reading surface-print on the pc board of cable set.

Part No.	Description
23305270	Extension Cable Set

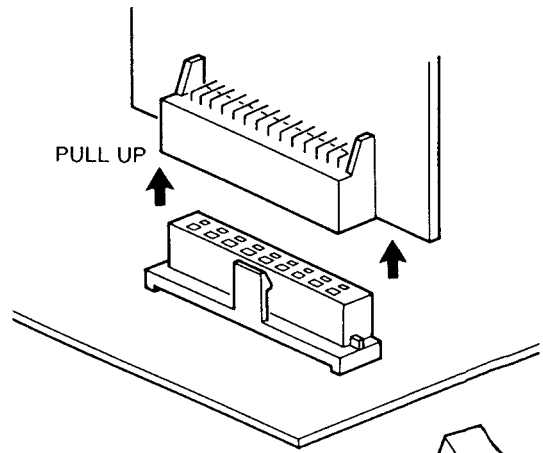


TO USE THE CABLE SET

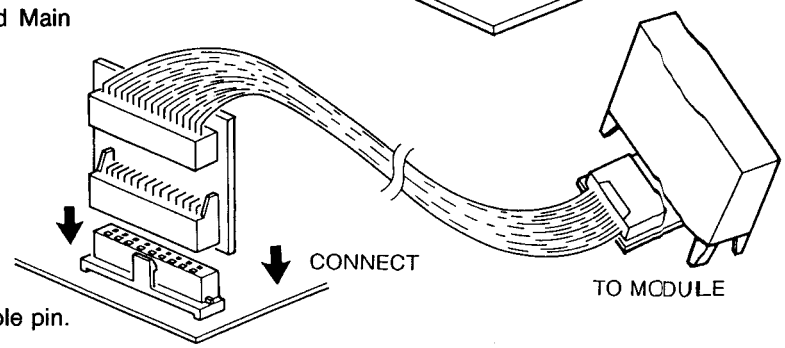
1. Unsolder corners on shielding case of module, which are marked with arrow in the figure.



2. Remove shielding case, and pull up module to disconnect.



3. Connect Extension Cable Set to module and Main board.

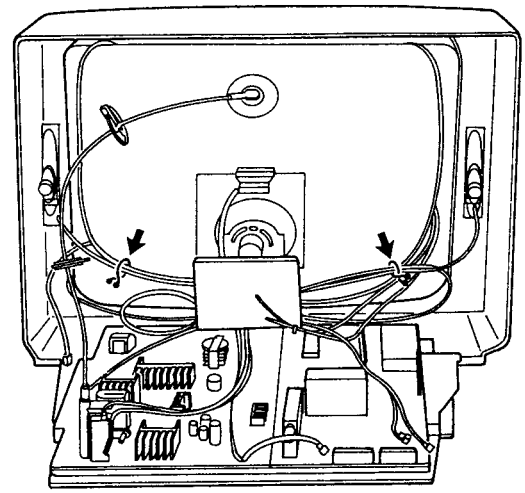


4. Reference chart of module and extension cable pin.

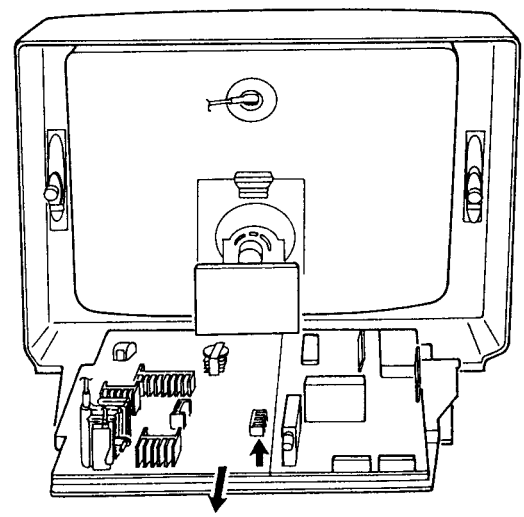
Board name	UK	FRANCE	ITALY	NORTH EUROPE/ SPAIN	GERMANY	Remarks
PRO-LOGIC	15P	15P	–	–	15P	
TELETEXT/ RGB	15P 7P	15P 7P	15P 7P	– –	15P 7P	
COMB FILTER	10P	10P	10P	–	10P	SECAM/1H DELAY circuit can not be used because of 11 pin connector.

HOW TO MAKE THE CHASSIS STAND FOR REPAIR OF THE 2857DD

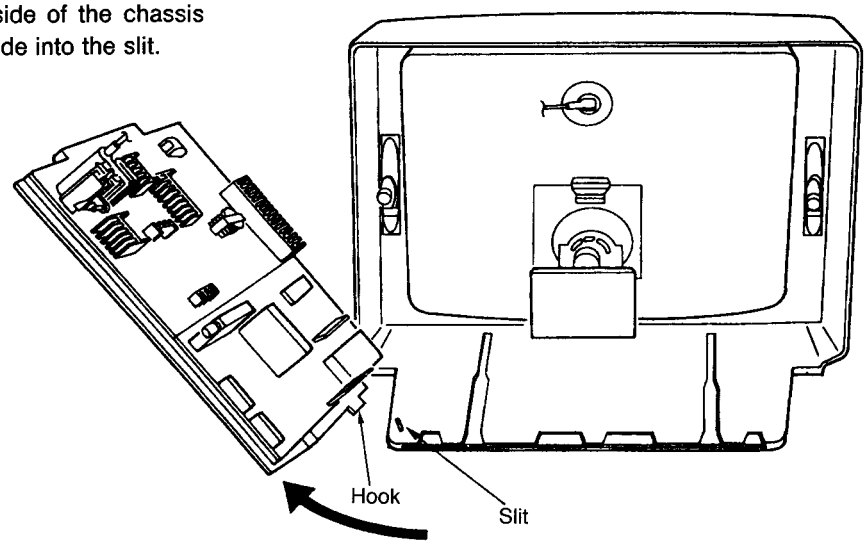
1. Disconnect the lead wires for the speaker fixed to the degausser coil with three omega clips.



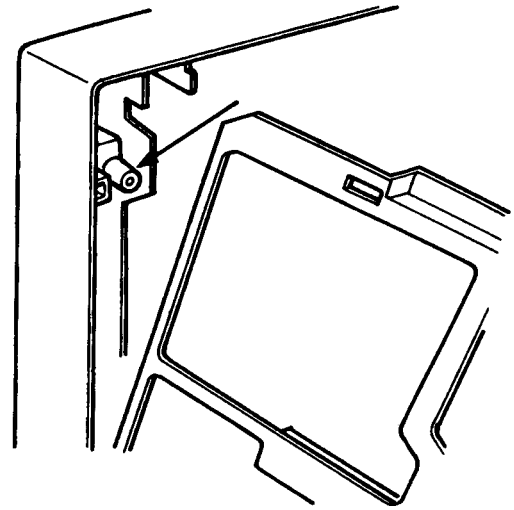
2. Lifting up slightly, pull out the chassis from the front mask.



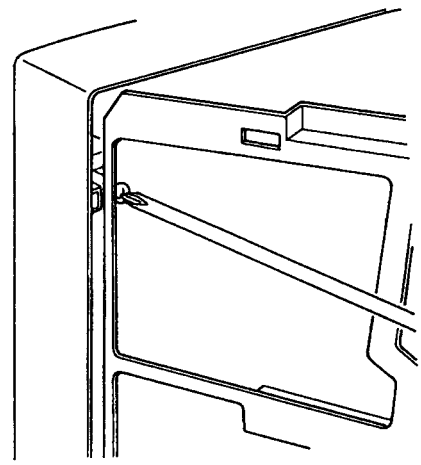
3. There is a slit at the left front of the bottom side of the front mask. Lift up the left side of the chassis and insert the hook at the right side into the slit.



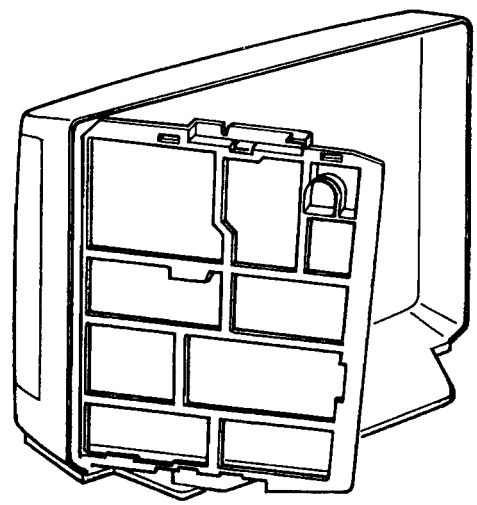
4. To retain the chassis, use the upper left boss (highest boss) which is marked with No. 29.



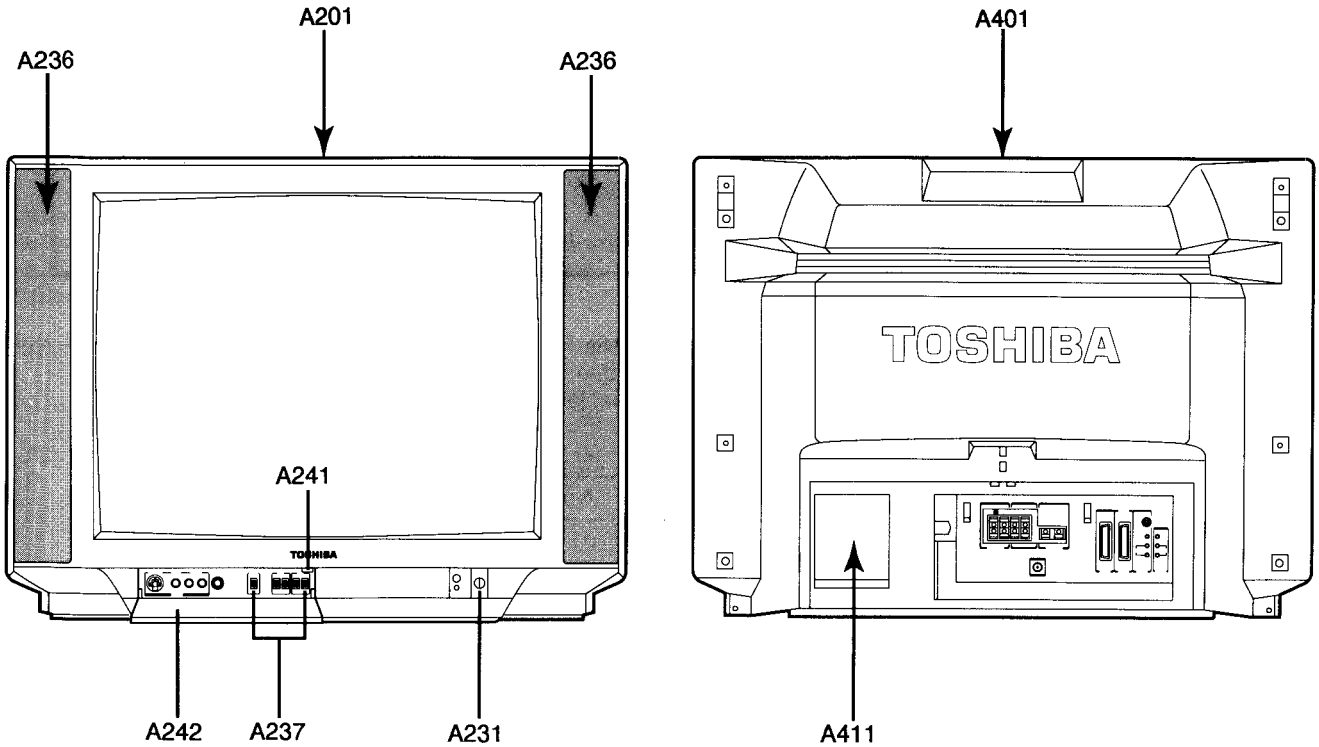
5. Fix it with screws for back cover fixing.
   Upper hole of the chassis frame.



6. After repair works, restore the unit by reversing the above steps.



CABINET REPLACEMENT PARTS LIST



Location No.	Part No.	Description
A201	23410670	Front Cover
A231	23443960	Button, POWER
A236	23519223	Speaker Grille
A237	23443966	Button, CONTROL
A241	70368125	Push Catch for Door
A340	23410676	SP Box Front (Surround SPK)
A341	23426411	SP Box Back (Surround SPK)
A343	23948114	Wire Assy (Speaker)
A344	23466653	Bushing
A345	23421715	Plug
⚠A401	23426393	Back Cover
A411	23569617	Label, Model No.

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols " ⚠ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

ABBREVIATIONS:

Capacitors.....	CD	: Ceramic Disk	PF	: Plastic Film	EL	: Electrolytic
Resistors.....	CF	: Carbon Film	CC	: Carbon Composition	MF	: Metal Film
	OMF	: Oxide Metal Film	VR	: Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C101	24797229	EL, 2.2μF, ±20%, 50V
C102	24763221	EL, 220μF, ±20%, 16V
C103	24232103	CD, 0.01μF, +80%, -20%
C104	24794470	EL, 47μF, ±20%, 16V
C105	24212102	CD, 1000pF, ±10%
C106	24797100	EL, 10μF, ±20%, 50V
C107	24763221	EL, 220μF, ±20%, 16V
C108	24763101	EL, 100μF, ±20%, 16V
C115	24232103	CD, 0.01μF, +80%, -20%
C116	24763221	EL, 220μF, ±20%, 16V
C190	24474102	CD, 1000pF, ±10%
C201	24206100	EL, 10μF, 50V
C203	24538104	PF, 0.1μF
C204	24206010	EL, 1μF, 50V
C205	24206229	EL, 2.2μF, 50V
C206	24206100	EL, 10μF, 50V
C207	24436270	CD, 27pF
C208	24436270	CD, 27pF
C209	24436270	CD, 27pF
C212	24794100	EL, 10μF, ±20%, 16V
C213	24436820	CD, 82pF
C214	24538334	PF, 0.33μF
C303	24214471	CD, 470pF, ±10%, 500V
C305	24617915	EL, 1μF, ±10%, 50V
C306	24073060	EL, 4700μF, ±20%, 25V
C307	24693473	PF, 0.047μF, 100V
C308	24668221	EL, 220μF, ±20%, 35V
C309	24591102	PF, 1000pF
C310	24796222	EL, 2200μF, ±20%, 35V
C311	24214561	CD, 560pF, ±10%, 500V
C313	24082057	PF, 0.22μF, 100V
C314	24591563	PF, 0.056μF
C315	24797229	EL, 2.2μF, ±20%, 50V
C316	24539104	PF, 0.1μF
C318	24666101	EL, 100μF, ±20%, 16V
C319	24212102	CD, 1000pF, ±10%
C320	24668101	EL, 100μF, ±20%, 35V
C321	24591203	PF, 0.02μF
C322	24617912	EL, 2.2μF, ±10%, 50V
C323	24538224	PF, 0.22μF

Location No.	Part No.	Description
C324	24538683	PF, 0.068μF
C326	24591682	PF, 6800pF
C327	24617787	EL, 470μF, ±20%, 16V
C328	24232103	CD, 0.01μF, +80%, -20%
C330	24212102	CD, 1000pF, ±10%
C341	24797478	EL, 0.47μF, ±20%, 50V
C370	24794101	EL, 100μF, ±20%, 16V
C371	24794100	EL, 10μF, ±20%, 16V
C401	24538104	PF, 0.1μF
C403	24591203	PF, 0.02μF
C404	24797229	EL, 2.2μF, ±20%, 50V
C413	24214821	CD, 820pF, ±10%, 500V
C415	24591392	PF, 3900pF
C416	24678010	EL, 1μF, ±20%, 200V
C417	24214391	CD, 390pF, ±10%, 500V
C420	24666101	EL, 100μF, ±20%, 16V
C423	24829823	PF, 0.082μF, 400V
C424	24206229	EL, 2.2μF, 50V
C425	24590154	PF, 0.15μF
C430	24232103	CD, 0.01μF, +80%, -20%
C431	24794471	EL, 470μF, ±20%, 16V
⚠C440	24082482	PF, 7000pF, ±3%, 1500V
⚠C441	24082669	PF, 0.33μF, 250V
⚠C442	24082672	PF, 0.43μF, 250V
⚠C444	24082519	PF, 6200pF, ±3%, 1800V
C445	24828473	PF, 0.047μF, 200V
C446	24679330	EL, 33μF, ±20%, 250V
C448	24640908	EL, 33μF, ±20%, 160V
C460	24796331	EL, 330μF, ±20%, 35V
⚠C463	24212222	CD, 2200pF, ±10%
C464	24676339	EL, 3.3μF, ±20%, 100V
C467	24095883	PF, 0.015μF, ±3%, 630V
C470	24794220	EL, 22μF, ±20%, 16V
C472	24538474	PF, 0.47μF
C473	24669010	EL, 1μF, ±20%, 50V
C475	24095887	PF, 0.01μF, ±3%, 630V
C477	24590563	PF, 0.056μF
C478	24590563	PF, 0.056μF
C481	24538104	PF, 0.1μF
C491	24082721	PF, 1.5μF, 250V
C492	24082672	PF, 0.43μF, 250V

Location No.	Part No.	Description
C494	24214121	CD, 120pF, ±10%, 500V
C498	24436270	CD, 27pF
C501	24232103	CD, 0.01μF, +80%, −20%
C502	24232103	CD, 0.01μF, +80%, −20%
C503	24763101	EL, 100μF, ±20%, 16V
C504	24591222	PF, 2200pF
C505	24353120	CD, 12pF
C507	24353120	CD, 12pF
C508	24206100	EL, 10μF, 50V
C509	24763101	EL, 100μF, ±20%, 16V
C510	24763101	EL, 100μF, ±20%, 16V
C511	24232103	CD, 0.01μF, +80%, −20%
C512	24206228	EL, 0.22μF, 50V
C513	24232103	CD, 0.01μF, +80%, −20%
C514	24538104	PF, 0.1μF
C515	24538104	PF, 0.1μF
C517	24353010	CD, 1pF, ±0.25pF
C519	24353010	CD, 1pF, ±0.25pF
C520	24212102	CD, 1000pF, ±10%
C521	24212102	CD, 1000pF, ±10%
C522	24436470	CD, 47pF
C523	24436470	CD, 47pF
C613	24794470	EL, 47μF, ±20%, 16V
C641	24206010	EL, 1μF, 50V
C644	24206010	EL, 1μF, 50V
C645	24795470	EL, 47μF, ±20%, 25V
C646	24795470	EL, 47μF, ±20%, 25V
C647	24591102	PF, 1000pF
C648	24590682	PF, 6800pF
C649	24206229	EL, 2.2μF, 50V
C650	24796102	EL, 1000μF, ±20%, 35V
C651	24668471	EL, 470μF, ±20%, 35V
C652	24668471	EL, 470μF, ±20%, 35V
C653	24795470	EL, 47μF, ±20%, 25V
C654	24591124	PF, 0.12μF
C655	24591124	PF, 0.12μF
C660	24206229	EL, 2.2μF, 50V
C661	24538104	PF, 0.1μF
C663	24206229	EL, 2.2μF, 50V
C664	24203100	EL, 10μF, ±20%, 16V
C665	24206229	EL, 2.2μF, 50V
C666	24206229	EL, 2.2μF, 50V
C667	24212102	CD, 1000pF, ±10%
C668	24212102	CD, 1000pF, ±10%
C671(U904)	24232103	CD, 0.01μF, +80%, −20%
C671(U902A)	24797010	EL, 1μF, ±20%, 50V
C672	24232103	CD, 0.01μF, +80%, −20%
C673(U902A)	24797010	EL, 1μF, ±20%, 50V
C673(U904)	24474102	CD, 1000pF, ±10%
C674(U902A)	24797010	EL, 1μF, ±20%, 50V
C674(U904)	24474102	CD, 1000pF, ±10%
C675(U904)	24474102	CD, 1000pF, ±10%
C675(U902A)	24795470	EL, 47μF, ±20%, 25V
C676(U904)	24474102	CD, 1000pF, ±10%
C676(U902A)	24797479	EL, 4.7μF, ±20%, 50V
C677(U904)	24232103	CD, 0.01μF, +80%, −20%
C677(U902A)	24591102	PF, 1000pF
C678(U902A)	24591102	PF, 1000pF
C678(U904)	24474102	CD, 1000pF, ±10%
C679(U902A)	24538104	PF, 0.1μF
C679(U904)	24474102	CD, 1000pF, ±10%
C680(U904)	24232103	CD, 0.01μF, +80%, −20%
C680(U902A)	24668102	EL, 1000μF, ±20%, 35V
C681(U904)	24474102	CD, 1000pF, ±10%

Location No.	Part No.	Description
C681(U902A)	24668471	EL, 470μF, ±20%, 35V
C682(U904)	24474102	CD, 1000pF, ±10%
C682(U902A)	24668471	EL, 470μF, ±20%, 35V
C683	24668102	EL, 1000μF, ±20%, 35V
C684	24591124	PF, 0.12μF
C685	24591124	PF, 0.12μF
C686	24591124	PF, 0.12μF
C688	24203220	EL, 22μF, ±20%, 16V
C704	24591822	PF, 8200pF
C705	24232103	CD, 0.01μF, +80%, −20%
C707	24794470	EL, 47μF, ±20%, 16V
C712	24666470	EL, 47μF, ±20%, 16V
C713	24790100	EL, 10μF, ±20%, 160V
C714	24436101	CD, 100pF
C715	24214472	CD, 4700pF, ±10%, 500V
C716	24436101	CD, 100pF
C717	24214472	CD, 4700pF, ±10%, 500V
C718	24790470	EL, 47μF, ±20%, 160V
C719	24214151	CD, 150pF, ±10%, 500V
C720	24790100	EL, 10μF, ±20%, 160V
C721	24790470	EL, 47μF, ±20%, 160V
C722	24436561	CD, 560pF
C726	24212102	CD, 1000pF, ±10%
⚠C801	24082374	PF, 0.22μF, AC250V
⚠C805	24092281	CD, 4700pF, ±20%, AC250V
⚠C806	24092281	CD, 4700pF, ±20%, AC250V
C808	24667331	EL, 330μF, ±20%, 25V
C809	24214471	CD, 470pF, ±10%, 500V
C810	24086873	EL, 330μF, ±20%, 400V
C813	24094656	CD, 2200pF, ±20%, AC400V
C814	24094656	CD, 2200pF, ±20%, AC400V
C816	24669221	EL, 220μF, ±20%, 50V
C817	24092341	CD, 470pF, ±10%, 2kV
C818	24095931	PF, 2200pF, 1250V
C819	24676220	EL, 22μF, ±20%, 100V
C821	24214471	CD, 470pF, ±10%, 500V
C829	24590182	PF, 1800pF
C831	24669470	EL, 47μF, ±20%, 50V
C833	24669100	EL, 10μF, ±20%, 50V
C841	24669100	EL, 10μF, ±20%, 50V
C842	24669100	EL, 10μF, ±20%, 50V
C843	24590104	PF, 0.1μF
C846	24590104	PF, 0.1μF
C884	24086916	EL, 330μF, ±20%, 160V
C885	24214471	CD, 470pF, ±10%, 500V
C887	24214471	CD, 470pF, ±10%, 500V
C889	24668332	EL, 3300μF, ±20%, 35V
C892	24667222	EL, 2200μF, ±20%, 25V
C893	24092337	CD, 220pF, ±10%, 2kV
C895	24669470	EL, 47μF, ±20%, 50V
C896	24214471	CD, 470pF, ±10%, 500V
C897	24666222	EL, 2200μF, ±20%, 16V
C898	24212101	CD, 100pF, ±10%
C899	24214471	CD, 470pF, ±10%, 500V
C902	24092353	CD, 4700pF, ±10%, 2kV
C904	24436271	CD, 270pF
C905	24436271	CD, 270pF
C907	24436271	CD, 270pF
C909	24679220	EL, 22μF, ±20%, 250V
C910	24797478	EL, 0.47μF, ±20%, 50V
C911	24203100	EL, 10μF, ±20%, 16V
C912	24794102	EL, 1000μF, ±20%, 16V
C913	24763102	EL, 1000μF, ±20%, 16V
C914	24212103	CD, 0.01μF, ±10%

Location No.	Part No.	Description
C920	24591104	PF, 0.1μF
C921	24591104	PF, 0.1μF
C930	24214101	CD, 100pF, ±10%, 500V
C931	24214101	CD, 100pF, ±10%, 500V
CA13	24212101	CD, 100pF, ±10%
CA22	24212101	CD, 100pF, ±10%
CA23	24212101	CD, 100pF, ±10%
CA24	24212101	CD, 100pF, ±10%
CA25	24212101	CD, 100pF, ±10%
CA30	24212101	CD, 100pF, ±10%
CA33	24232103	CD, 0.01μF, +80%, –20%
CA37	24212101	CD, 100pF, ±10%
CA38	24212101	CD, 100pF, ±10%
CA42	24794100	EL, 10μF, ±20%, 16V
CA43	24232103	CD, 0.01μF, +80%, –20%
CA44	24232103	CD, 0.01μF, +80%, –20%
CA68	24794100	EL, 10μF, ±20%, 16V
CA69	24232103	CD, 0.01μF, +80%, –20%
CB01	24794470	EL, 47μF, ±20%, 16V
CD01	24781330	Chip, 33pF, SL
CD02	24590332	PF, 3300pF
CD03	24590332	PF, 3300pF
CD04	24781330	Chip, 33pF, SL
CD05	24203100	EL, 10μF, ±20%, 16V
CD06	24203100	EL, 10μF, ±20%, 16V
CD07	24203100	EL, 10μF, ±20%, 16V
CD08	24203100	EL, 10μF, ±20%, 16V
CD09	24203100	EL, 10μF, ±20%, 16V
CD10	24203100	EL, 10μF, ±20%, 16V
CD11	24203100	EL, 10μF, ±20%, 16V
CD12	24203100	EL, 10μF, ±20%, 16V
CD13	24085988	EL, 1μF, ±20%, 50V, Non-Polar
CD14	24085988	EL, 1μF, ±20%, 50V, Non-Polar
CD15	24763101	EL, 100μF, ±20%, 16V
CD16	24203100	EL, 10μF, ±20%, 16V
CD17	24538104	PF, 0.1μF
CD18	24815682	Chip, 6800pF, +80%, –20%, F
CD19	24815682	Chip, 6800pF, +80%, –20%, F
CD20	24781221	Chip, 220pF, SL
CD21	24590682	PF, 6800pF
CD22	24781391	Chip, 390pF, SL
CD23	24781101	Chip, 100pF, SL
CD24	24206010	EL, 1μF, 50V
CD25	24590272	PF, 2700pF
CD26	24781330	Chip, 33pF, SL
CD27	24590682	PF, 6800pF
CD28	24781391	Chip, 390pF, SL
CD29	24590272	PF, 2700pF
CD30	24203100	EL, 10μF, ±20%, 16V
CD31	24781330	Chip, 33pF, SL
CD32	24781101	Chip, 100pF, SL
CD33	24206010	EL, 1μF, 50V
CD34	24590272	PF, 2700pF
CD35	24590682	PF, 6800pF
CD36	24781391	Chip, 390pF, SL
CD37	24781680	Chip, 68pF, SL
CD38	24203100	EL, 10μF, ±20%, 16V
CD39	24203100	EL, 10μF, ±20%, 16V
CD40	24206229	EL, 2.2μF, 50V
CD41	24203100	EL, 10μF, ±20%, 16V
CD42	24206229	EL, 2.2μF, 50V
CD43	24203100	EL, 10μF, ±20%, 16V

Location No.	Part No.	Description
CD44	24590154	PF, 0.15μF
CD45	24203100	EL, 10μF, ±20%, 16V
CD46	24781680	Chip, 68pF, SL
CD47	24203100	EL, 10μF, ±20%, 16V
CD48	24781101	Chip, 100pF, SL
CD49	24203100	EL, 10μF, ±20%, 16V
CD50	24203100	EL, 10μF, ±20%, 16V
CD51	24781680	Chip, 68pF, SL
CD52	24203100	EL, 10μF, ±20%, 16V
CD53	24763471	EL, 470μF, ±20%, 16V
CD54	24781101	Chip, 100pF, SL
CD55	24206010	EL, 1μF, 50V
CD56	24206010	EL, 1μF, 50V
CD57	24206010	EL, 1μF, 50V
CD58	24203100	EL, 10μF, ±20%, 16V
CD59	24591273	PF, 0.027μF
CD60	24591822	PF, 8200pF
CD61	24206010	EL, 1μF, 50V
CD62	24092293	Chip, 0.1μF, +80%,–20%, 25V
CD63	24092293	Chip, 0.1μF, +80%,–20%, 25V
CD64	24092293	Chip, 0.1μF, +80%,–20%, 25V
CD65	24206010	EL, 1μF, 50V
CD66	24203100	EL, 10μF, ±20%, 16V
CD67	24781330	Chip, 33pF, SL
CD68	24781330	Chip, 33pF, SL
CD69	24205479	EL, 4.7μF, ±20%, 35V
CD70	24092293	Chip, 0.1μF, +80%,–20%, 25V
CD71	24538104	PF, 0.1μF
CD72	24762221	EL, 220μF, ±20%, 10V
CD73	24762221	EL, 220μF, ±20%, 10V
CD74	24538104	PF, 0.1μF
CD75	24781102	Chip, 1000pF, SL
CD76	24203100	EL, 10μF, ±20%, 16V
CD77	24814103	Chip, 0.01μF, +80%, –20%
CD78	24763101	EL, 100μF, ±20%, 16V
CD79	24814103	Chip, 0.01μF, +80%, –20%
CD80	24202101	EL, 100μF, 10V
CD81	24781221	Chip, 220pF, SL
CD82	24203100	EL, 10μF, ±20%, 16V
CD83	24814103	Chip, 0.01μF, +80%, –20%
CG01	24538224	PF, 0.22μF
CG02	24590104	PF, 0.1μF
CG03	24590104	PF, 0.1μF
CG04	24206010	EL, 1μF, 50V
CG05	24203220	EL, 22μF, ±20%, 16V
CG06	24232103	CD, 0.01μF, +80%, –20%
CG07	24206010	EL, 1μF, 50V
CG08	24206010	EL, 1μF, 50V
CG09	24206010	EL, 1μF, 50V
CG10	24232103	CD, 0.01μF, +80%, –20%
CG11	24232103	CD, 0.01μF, +80%, –20%
CG12	24590273	PF, 0.027μF
CG13	24232103	CD, 0.01μF, +80%, –20%
CG14	24203101	EL, 100μF, ±20%, 16V
CG15	24590822	PF, 8200pF
CG16	24206010	EL, 1μF, 50V
CG17	24590273	PF, 0.027μF
CG18	24590822	PF, 8200pF
CG21	24590273	PF, 0.027μF
CG22	24206010	EL, 1μF, 50V
CG23	24590822	PF, 8200pF
CG24	24206100	EL, 10μF, 50V
CG25	24212102	CD, 1000pF, ±10%
CG26	24206100	EL, 10μF, 50V

Location No.	Part No.	Description
CG27	24206229	EL, 2.2μF, 50V
CG28	24206229	EL, 2.2μF, 50V
CG41	24203470	EL, 47μF, ±20%, 16V
CQ01	24436102	CD, 1000pF
CQ02	24353820	CD, 82pF
CQ03	24212102	CD, 1000pF, ±10%
CQ04	24794100	EL, 10μF, ±20%, 16V
CQ05	24590563	PF, 0.056μF
CQ07	24590203	PF, 0.02μF
CQ08	24590683	PF, 0.068μF
CQ09	24797229	EL, 2.2μF, ±20%, 50V
CQ10	24590223	PF, 0.022μF
CQ11	24797229	EL, 2.2μF, ±20%, 50V
CQ12	24436820	CD, 82pF
CQ13	24590104	PF, 0.1μF
CQ14	24590104	PF, 0.1μF
CQ15	24794101	EL, 100μF, ±20%, 16V
CQ16	24232103	CD, 0.01μF, +80%, −20%
CQ17	24353150	CD, 15pF
CQ18	24436820	CD, 82pF
CQ19	24590103	PF, 0.01μF
CQ20	24538104	PF, 0.1μF
CQ21	24794470	EL, 47μF, ±20%, 16V
CQ22	24232103	CD, 0.01μF, +80%, −20%
CQ23	24538104	PF, 0.1μF
CQ24	24538104	PF, 0.1μF
CQ25	24797100	EL, 10μF, ±20%, 50V
CQ26	24538104	PF, 0.1μF
CQ27	24538104	PF, 0.1μF
CQ28	24797478	EL, 0.47μF, ±20%, 50V
CQ29	24794101	EL, 100μF, ±20%, 16V
CQ30	24232103	CD, 0.01μF, +80%, −20%
CQ31	24797478	EL, 0.47μF, ±20%, 50V
CQ32	24590103	PF, 0.01μF
CQ33	24538104	PF, 0.1μF
CQ34	24538104	PF, 0.1μF
CQ35	24206478	EL, 0.47μF, 50V
CQ36	24206478	EL, 0.47μF, 50V
CQ37	24797010	EL, 1μF, ±20%, 50V
CQ38	24797010	EL, 1μF, ±20%, 50V
CQ39	24797010	EL, 1μF, ±20%, 50V
CQ40	24436820	CD, 82pF
CQ41	24436090	CD, 9pF, ±0.25pF
CQ42	24436090	CD, 9pF, ±0.25pF
CQ43	24436090	CD, 9pF, ±0.25pF
CQ45	24212102	CD, 1000pF, ±10%
CQ46	24212102	CD, 1000pF, ±10%
CR01	24538104	PF, 0.1μF
CR02	24538104	PF, 0.1μF
CR03	24538104	PF, 0.1μF
CR05	24232103	CD, 0.01μF, +80%, −20%
CR06	24666100	EL, 10μF, ±20%, 16V
CR12(U902A)	24538104	PF, 0.1μF
CR12(U907)	24666100	EL, 10μF, ±20%, 16V
CR13	24538104	PF, 0.1μF
CR14	24538104	PF, 0.1μF
CS01	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CS02	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CS03	24206229	EL, 2.2μF, 50V
CS04	24206229	EL, 2.2μF, 50V
CS05	24206229	EL, 2.2μF, 50V
CS06	24206229	EL, 2.2μF, 50V

Location No.	Part No.	Description
CS07	24206229	EL, 2.2μF, 50V
CS08	24206229	EL, 2.2μF, 50V
CS09	24206010	EL, 1μF, 50V
CS12	24474102	CD, 1000pF, ±10%
CS13	24474102	CD, 1000pF, ±10%
CS14	24206100	EL, 10μF, 50V
CS15	24206100	EL, 10μF, 50V
CS17	24666100	EL, 10μF, ±20%, 16V
CS18	24666100	EL, 10μF, ±20%, 16V
CS19	24206478	EL, 0.47μF, 50V
CS22	24666100	EL, 10μF, ±20%, 16V
CS23	24666100	EL, 10μF, ±20%, 16V
CS181	24797010	EL, 1μF, ±20%, 50V
CS182	24797010	EL, 1μF, ±20%, 50V
CT01	24590104	PF, 0.1μF
CT02	24353080	CD, 8pF, ±0.25pF
CT03	24353150	CD, 15pF
CT04	24212102	CD, 1000pF, ±10%
CT05	24590104	PF, 0.1μF
CT06	24590104	PF, 0.1μF
CT07	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CT08	24232103	CD, 0.01μF, +80%, −20%
CT09	24794101	EL, 100μF, ±20%, 16V
CT10	24436220	CD, 22pF
CT11	24794101	EL, 100μF, ±20%, 16V
CT12	24590104	PF, 0.1μF
CT13	24794100	EL, 10μF, ±20%, 16V
CT14	24794100	EL, 10μF, ±20%, 16V
CT16	24436220	CD, 22pF
CT17	24232103	CD, 0.01μF, +80%, −20%
CV01	24590473	PF, 0.047μF
CV02	24666100	EL, 10μF, ±20%, 16V
CV03	24666100	EL, 10μF, ±20%, 16V
CV04	24666100	EL, 10μF, ±20%, 16V
CV05	24232103	CD, 0.01μF, +80%, −20%
CV06	24666100	EL, 10μF, ±20%, 16V
CV08	24763102	EL, 1000μF, ±20%, 16V
CV09	24666100	EL, 10μF, ±20%, 16V
CV10	24085970	EL, 10μF, ±20%, 16V, Non-Polar
CV12	24232103	CD, 0.01μF, +80%, −20%
CV13	24232103	CD, 0.01μF, +80%, −20%
CV14	24474102	CD, 1000pF, ±10%
CV15	24474102	CD, 1000pF, ±10%
CV23	24666101	EL, 100μF, ±20%, 16V
CV24	24232103	CD, 0.01μF, +80%, −20%
CV25	24763471	EL, 470μF, ±20%, 16V
CV35	24212102	CD, 1000pF, ±10%
CV36	24232103	CD, 0.01μF, +80%, −20%
CV37	24474102	CD, 1000pF, ±10%
CV39	24666101	EL, 100μF, ±20%, 16V
CV40	24232103	CD, 0.01μF, +80%, −20%
CV42	24206229	EL, 2.2μF, 50V
CV46	24212332	CD, 3300pF, ±10%
CV47	24212332	CD, 3300pF, ±10%
CV48	24212102	CD, 1000pF, ±10%
CV49	24232103	CD, 0.01μF, +80%, −20%
CV50	24232103	CD, 0.01μF, +80%, −20%
CV65	24203101	EL, 100μF, ±20%, 16V
CV68	24763471	EL, 470μF, ±20%, 16V
CV71	24763471	EL, 470μF, ±20%, 16V
CV72	24766101	PF, 0.1μF
CV73	24212103	CD, 0.01μF, ±10%

Location No.	Part No.	Description
CV77	24666100	EL, 10μF, ±20%, 16V
CZ07	24206229	EL, 2.2μF, 50V
CZ08	24203100	EL, 10μF, ±20%, 16V
CZ09	24436220	CD, 22pF
CZ10	24473180	CD, 18pF
CZ11	24473100	CD, 10pF
CZ12	24232103	CD, 0.01μF, +80%, −20%
CZ13	24092398	CD, 0.1μF, +80%,−20%
CZ14	24617816	EL, 10μF, ±20%, 50V
CZ15	24232103	CD, 0.01μF, +80%, −20%
CZ16	24206478	EL, 0.47μF, 50V
CZ17	24232103	CD, 0.01μF, +80%, −20%
CZ19	24436181	CD, 180pF
CZ20	24538103	PF, 0.01μF
CZ21	24436390	CD, 39pF
CZ22	24617816	EL, 10μF, ±20%, 50V
CZ23	24092398	CD, 0.1μF, +80%,−20%
CZ24	24092398	CD, 0.1μF, +80%,−20%
CZ25	24203101	EL, 100μF, ±20%, 16V
CZ26	24232103	CD, 0.01μF, +80%, −20%
CZ28	24232103	CD, 0.01μF, +80%, −20%
CZ29	24092398	CD, 0.1μF, +80%,−20%
CZ30	24617816	EL, 10μF, ±20%, 50V
CZ32	24436120	CD, 12pF
CZ33	24436120	CD, 12pF
CZ34	24473120	CD, 12pF
CZ35	24473120	CD, 12pF
CZ36	24232103	CD, 0.01μF, +80%, −20%
CZ37	24092398	CD, 0.1μF, +80%,−20%
CZ38	24092398	CD, 0.1μF, +80%,−20%
CZ43	24232103	CD, 0.01μF, +80%, −20%
CZ45	24436100	CD, 10pF, ±0.25pF

RESISTORS

R101	24382223	OMF, 22k ohm, 1W
R201	24366681	CF, 680 ohm
R202	24366821	CF, 820 ohm
R204	24366104	CF, 100k ohm
R205	24366222	CF, 2200 ohm
R206	24366102	CF, 1k ohm
R207	24366101	CF, 100 ohm
R208(U903)	24366103	CF, 10k ohm
R208(U902A)	24366101	CF, 100 ohm
R209(U903)	24366103	CF, 10k ohm
R209(U902A)	24366101	CF, 100 ohm
R211	24366123	CF, 12k ohm
R212	24366472	CF, 4700 ohm
R213	24366122	CF, 1200 ohm
R214	24366222	CF, 2200 ohm
R215	24366102	CF, 1k ohm
R216	24366103	CF, 10k ohm
R217	24366102	CF, 1k ohm
R218	24367822	CF, 8200 ohm, ±2%
R220	24366102	CF, 1k ohm
R221	24366102	CF, 1k ohm
R223	24366102	CF, 1k ohm
R224	24366271	CF, 270 ohm
R225	24366100	CF, 10 ohm
R226	24366223	CF, 22k ohm
R227(U902A)	24366223	CF, 22k ohm
R227(U903)	24367622	CF, 6200 ohm, ±2%
R228	24366104	CF, 100k ohm
R233	24366120	CF, 12 ohm
R240	24366152	CF, 1500 ohm
R241	24366102	CF, 1k ohm
R301	24366102	CF, 1k ohm
R303	24321159	MF, 1.5 ohm, 1/2W
R304	24366393	CF, 39k ohm
R305	24322568	MF, 0.56 ohm, 1W
R306	24366823	CF, 82k ohm
R307	24366364	CF, 360k ohm
R310	24382331	OMF, 330 ohm, 1W
R311	24366392	CF, 3900 ohm
R312	24366153	CF, 15k ohm
R313	24366623	CF, 62k ohm
R314	24366105	CF, 1M ohm
R315	24366105	CF, 1M ohm
R316	24366154	CF, 150k ohm
R318	24366471	CF, 470 ohm
R319	24366471	CF, 470 ohm
R320	24366101	CF, 100 ohm
R321	24366101	CF, 100 ohm
R322	24366183	CF, 18k ohm
R323	24366562	CF, 5600 ohm
R324	24366101	CF, 100 ohm
R325	24366104	CF, 100k ohm
R326	24366204	CF, 200k ohm
R327	24339479	MF, 4.7 ohm, 2W
R329	24366223	CF, 22k ohm
R330	24366102	CF, 1k ohm
R331	24366104	CF, 100k ohm
R332	24366122	CF, 1200 ohm
R333	24366562	CF, 5600 ohm
R336	24383331	OMF, 330 ohm, 2W
R341	24366153	CF, 15k ohm
R343	24366153	CF, 15k ohm
R370	24321109	MF, 1 ohm, 1/2W
R371	24366562	CF, 5600 ohm
R372	24366392	CF, 3900 ohm
R373	24366182	CF, 1800 ohm
R374	24366153	CF, 15k ohm
R401	24366391	CF, 390 ohm
R402	24366103	CF, 10k ohm
R403	24366302	CF, 3k ohm
R405	24553682	OMF, 6800 ohm, 1W
R407	24366103	CF, 10k ohm
R410	24366331	CF, 330 ohm
R411	24366331	CF, 330 ohm
R413	24366682	CF, 6800 ohm
R415	24553272	OMF, 2700 ohm, 1W
R416	24510562	Cement, 5600 ohm, 5W
R423	24366473	CF, 47k ohm
R424	24366222	CF, 2200 ohm
R425(U902A)	24366223	CF, 22k ohm
R425(U903)	24552332	OMF, 3300 ohm, 1/2W
R426(U902A)	24366473	CF, 47k ohm
R426(U903)	24366821	CF, 820 ohm
R427(U902A)	24366222	CF, 2200 ohm
R427(U903)	24366392	CF, 3900 ohm
R428(U902A)	24366333	CF, 33k ohm
R428(U903)	24366561	CF, 560 ohm
R429(U902A)	24366473	CF, 47k ohm
R429(U903)	24552560	OMF, 56 ohm, 1/2W
R431	24366103	CF, 10k ohm
⚠R432	24531560	FR, 56 ohm, 1/2W
R433	24366472	CF, 4700 ohm
R434	24366332	CF, 3300 ohm
⚠R441	24532102	FR, 1k ohm, 1W

Location No.	Part No.	Description
⚠R442	24533151	FR, 150 ohm, 2W
R460	24552332	OMF, 3300 ohm, 1/2W
R461	24552242	OMF, 2400 ohm, 1/2W
R463	24323479	OMF, 4.7 ohm, 2W
R464	24366273	CF, 27k ohm
R465	24366114	CF, 110k ohm
R466	24366562	CF, 5600 ohm
⚠R469	24000211	FR, 15 ohm, 1/2W
R470	24338568	MF, 0.56 ohm, 1W
R471	24531271	FR, 270 ohm, 1/2W
R473	24366184	CF, 180k ohm
R474	24366184	CF, 180k ohm
R478	24376333	CF, 33k ohm, 1/2W
R479	24531121	FR, 120 ohm, 1/2W
R480	24552222	OMF, 2200 ohm, 1/2W
R481	24366223	CF, 22k ohm
R482	24366223	CF, 22k ohm
R487	24366474	CF, 470k ohm
R488	24366154	CF, 150k ohm
R501	24366223	CF, 22k ohm
R502	24366101	CF, 100 ohm
R503	24366101	CF, 100 ohm
R505	24366102	CF, 1k ohm
R506	24366103	CF, 10k ohm
R508	24366102	CF, 1k ohm
R509	24366102	CF, 1k ohm
R510	24366102	CF, 1k ohm
R511	24366101	CF, 100 ohm
R512	24366101	CF, 100 ohm
R610	24366103	CF, 10k ohm
R611	24366103	CF, 10k ohm
R612	24366103	CF, 10k ohm
R640	24366222	CF, 2200 ohm
R641	24366182	CF, 1800 ohm
R642	24366222	CF, 2200 ohm
R643	24366562	CF, 5600 ohm
R644	24366473	CF, 47k ohm
R645	24366229	CF, 2.2 ohm
R646	24366223	CF, 22k ohm
R647	24366223	CF, 22k ohm
R648	24366229	CF, 2.2 ohm
R660	24510159	Cement, 1.5 ohm, 5W
R661(U902A)	24552221	OMF, 220 ohm, 1/2W
R661(U903)	24510159	Cement, 1.5 ohm, 5W
R662	24552221	OMF, 220 ohm, 1/2W
R670	24366272	CF, 2700 ohm
R671(U904)	24366102	CF, 1k ohm
R671(U902A)	24366222	CF, 2200 ohm
R672(U902A)	24366272	CF, 2700 ohm
R672(U904)	24366102	CF, 1k ohm
R673(U902A)	24366222	CF, 2200 ohm
R673(U904)	24366102	CF, 1k ohm
R674	24366332	CF, 3300 ohm
R675(U902A)	24366472	CF, 4700 ohm
R675(U904)	24366102	CF, 1k ohm
R676(U902A)	24366223	CF, 22k ohm
R676(U904)	24366223	CF, 22k ohm
R677(U902A)	24366223	CF, 22k ohm
R677(U904)	24366223	CF, 22k ohm
R678	24366223	CF, 22k ohm
R679	24366223	CF, 22k ohm
R680(U904)	24366223	CF, 22k ohm
R680(U902A)	24366473	CF, 47k ohm
R681	24366223	CF, 22k ohm

Location No.	Part No.	Description
R682	24366104	CF, 100k ohm
R683	24366273	CF, 27k ohm
R684	24366229	CF, 2.2 ohm
R685	24366229	CF, 2.2 ohm
R686	24366229	CF, 2.2 ohm
R688	24366222	CF, 2200 ohm
R690	24366681	CF, 680 ohm
R691	24366681	CF, 680 ohm
R692	24366681	CF, 680 ohm
R693	24366681	CF, 680 ohm
R702	24366222	CF, 2200 ohm
R709	24366563	CF, 56k ohm
R713	24366393	CF, 39k ohm
R714	24552121	OMF, 120 ohm, 1/2W
R715	24366223	CF, 22k ohm
R716	24366273	CF, 27k ohm
R717	24366333	CF, 33k ohm
R718	24366222	CF, 2200 ohm
R719	24366392	CF, 3900 ohm
R720	24366392	CF, 3900 ohm
R721	24366102	CF, 1k ohm
R722	24552471	OMF, 470 ohm, 1/2W
R723	24366471	CF, 470 ohm
R724	24366470	CF, 47 ohm
R725	24366182	CF, 1800 ohm
R730	24552100	OMF, 10 ohm, 1/2W
R731	24552331	OMF, 330 ohm, 1/2W
R732	24366820	CF, 82 ohm
R733	24366683	CF, 68k ohm
R734	24366820	CF, 82 ohm
R735	24366683	CF, 68k ohm
R736	24552620	OMF, 62 ohm, 1/2W
R737	24366152	CF, 1500 ohm
R738	24366123	CF, 12k ohm
R739	24366152	CF, 1500 ohm
R740	24552620	OMF, 62 ohm, 1/2W
R741	24321279	MF, 2.7 ohm, 1/2W
R742	24321279	MF, 2.7 ohm, 1/2W
R743	24554221	OMF, 220 ohm, 2W
R744	24366122	CF, 1200 ohm
R745	24366122	CF, 1200 ohm
⚠R801	24009954	Metal-Glazed Resistor, 2.2M ohm, 1/2W
R803	24382683	OMF, 68k ohm, 1W
R805	24366101	CF, 100 ohm
R806	24552392	OMF, 3900 ohm, 1/2W
⚠R808	24019340	PTC Thermistor, 18 ohm, 290V
⚠R810	24007489	Cement, 3 ohm, 20W
⚠R811	24568271	Cement, 270 ohm, 7W
R814	24366122	CF, 1200 ohm
R815	24552102	OMF, 1k ohm, 1/2W
R816	24382100	OMF, 10 ohm, 1W
R818	24322228	MF, 0.22 ohm, 1W
R819	24321829	MF, 8.2 ohm, 1/2W
R821	24366101	CF, 100 ohm
R822	24552103	OMF, 10k ohm, 1/2W
R823	24366272	CF, 2700 ohm
⚠R824	24569689	Cement, 6.8 ohm, 10W
R827	24366681	CF, 680 ohm
R828	24366821	CF, 820 ohm
R829	24322228	MF, 0.22 ohm, 1W
R830	24366471	CF, 470 ohm
⚠R841	24531120	FR, 12 ohm, 1/2W

Location No.	Part No.	Description
R842	24552392	OMF, 3900 ohm, 1/2W
R846	24366561	CF, 560 ohm
R847	24366472	CF, 4700 ohm
R871	24366101	CF, 100 ohm
R890	24553333	OMF, 33k ohm, 1W
⚠R899	24005007	Metal-Glazed Resistor, 8.2M ohm, 1W
R901	24376561	CF, 560 ohm, 1/2W
R902	24376561	CF, 560 ohm, 1/2W
R903	24376561	CF, 560 ohm, 1/2W
R904	24366472	CF, 4700 ohm
R905	24366150	CF, 15 ohm
R909	24366222	CF, 2200 ohm
R912	24366102	CF, 1k ohm
R914	24366561	CF, 560 ohm
R915	24366101	CF, 100 ohm
R916	24366510	CF, 51 ohm
R917	24366471	CF, 470 ohm
R918	24366820	CF, 82 ohm
R919	24366102	CF, 1k ohm
R920	24000568	FR, 4.7 ohm, 1W
R921	24366561	CF, 560 ohm
R922	24366101	CF, 100 ohm
R924	24366820	CF, 82 ohm
R925	24366471	CF, 470 ohm
R926	24366102	CF, 1k ohm
R928	24366561	CF, 560 ohm
R929	24366101	CF, 100 ohm
R930	24366820	CF, 82 ohm
R932	24366332	CF, 3300 ohm
R933	24366750	CF, 75 ohm
R934	24366391	CF, 390 ohm
R935	24366821	CF, 820 ohm
R936	24366750	CF, 75 ohm
R937	24366471	CF, 470 ohm
R939	24366101	CF, 100 ohm
R942	24366392	CF, 3900 ohm
R943	24366392	CF, 3900 ohm
R944	24366392	CF, 3900 ohm
R945	24366510	CF, 51 ohm
R946	24366510	CF, 51 ohm
R960	24383153	OMF, 15k ohm, 2W
R961	24383153	OMF, 15k ohm, 2W
R962	24383153	OMF, 15k ohm, 2W
R963	24383153	OMF, 15k ohm, 2W
R964	24383153	OMF, 15k ohm, 2W
R965	24383153	OMF, 15k ohm, 2W
R977	24366122	CF, 1200 ohm
R980	24366471	CF, 470 ohm
R981	24366821	CF, 820 ohm
R982	24366103	CF, 10k ohm
R983	24366222	CF, 2200 ohm
R984	24367152	CF, 1500 ohm, ±2%
R985	24367471	CF, 470 ohm, ±2%
R986	24367681	CF, 680 ohm, ±2%
R987	24367681	CF, 680 ohm, ±2%
R988	24367472	CF, 4700 ohm, ±2%
R989	24367332	CF, 3300 ohm, ±2%
R990	24366242	CF, 2400 ohm
R991	24367681	CF, 680 ohm, ±2%
R992	24366150	CF, 15 ohm
RA03	24366102	CF, 1k ohm
RA04	24366102	CF, 1k ohm
RA05	24366102	CF, 1k ohm

Location No.	Part No.	Description
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA13	24366153	CF, 15k ohm
RA16	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA18	24366102	CF, 1k ohm
RA22	24366472	CF, 4700 ohm
RA23	24366472	CF, 4700 ohm
RA24	24366472	CF, 4700 ohm
RA25	24366332	CF, 3300 ohm
RA26	24366102	CF, 1k ohm
RA27	24366102	CF, 1k ohm
RA33	24366103	CF, 10k ohm
RA35	24366102	CF, 1k ohm
RA36	24366472	CF, 4700 ohm
RA37	24366101	CF, 100 ohm
RA38	24366101	CF, 100 ohm
RA61	24366103	CF, 10k ohm
RA62	24366103	CF, 10k ohm
RA67	24366272	CF, 2700 ohm
RA68	24366272	CF, 2700 ohm
RA70	24366333	CF, 33k ohm
RA71	24366683	CF, 68k ohm
RA72	24366223	CF, 22k ohm
RA73	24366103	CF, 10k ohm
RA75	24366333	CF, 33k ohm
RA76	24366103	CF, 10k ohm
RB01	24366271	CF, 270 ohm
RB02	24366271	CF, 270 ohm
RB03	24366101	CF, 100 ohm
RB09	24366470	CF, 47 ohm
RB10	24366101	CF, 100 ohm
RB11	24366103	CF, 10k ohm
RB30	24366103	CF, 10k ohm
RB40	24366103	CF, 10k ohm
RB41	24366182	CF, 1800 ohm
RB42	24366102	CF, 1k ohm
RB43	24366103	CF, 10k ohm
RB44	24366103	CF, 10k ohm
RB45	24366101	CF, 100 ohm
RD01	24872101	Chip, 100 ohm, 1/16W
RD02	24872101	Chip, 100 ohm, 1/16W
RD03	24872101	Chip, 100 ohm, 1/16W
RD04	24872101	Chip, 100 ohm, 1/16W
RD05	24872104	Chip, 100k ohm, 1/16W
RD06	24872272	Chip, 2700 ohm, 1/16W
RD07	24872104	Chip, 100k ohm, 1/16W
RD08	24872272	Chip, 2700 ohm, 1/16W
RD09	24872104	Chip, 100k ohm, 1/16W
RD10	24872104	Chip, 100k ohm, 1/16W
RD11	24872272	Chip, 2700 ohm, 1/16W
RD12	24872562	Chip, 5600 ohm, 1/16W
RD13	24872103	Chip, 10k ohm, 1/16W
RD14	24872104	Chip, 100k ohm, 1/16W
RD15	24872222	Chip, 2200 ohm, 1/16W
RD16	24872103	Chip, 10k ohm, 1/16W
RD17	24872222	Chip, 2200 ohm, 1/16W
RD18	24872123	Chip, 12k ohm, 1/16W
RD19	24872822	Chip, 8200 ohm, 1/16W
RD20	24872105	Chip, 1M ohm, 1/16W
RD21	24872822	Chip, 8200 ohm, 1/16W
RD22	24872822	Chip, 8200 ohm, 1/16W
RD23	24872101	Chip, 100 ohm, 1/16W
RD24	24872562	Chip, 5600 ohm, 1/16W

Location No.	Part No.	Description
RD25	24872272	Chip, 2700 ohm, 1/16W
RD26	24872822	Chip, 8200 ohm, 1/16W
RD27	24872822	Chip, 8200 ohm, 1/16W
RD28	24872103	Chip, 10k ohm, 1/16W
RD29	24872103	Chip, 10k ohm, 1/16W
RD30	24872822	Chip, 8200 ohm, 1/16W
RD31	24872101	Chip, 100 ohm, 1/16W
RD32	24872473	Chip, 47k ohm, 1/16W
RD33	24872205	Chip, 2M ohm, 1/16W
RD34	24872822	Chip, 8200 ohm, 1/16W
RD35	24872822	Chip, 8200 ohm, 1/16W
RD36	24872822	Chip, 8200 ohm, 1/16W
RD37	24000593	Chip, 10k ohm, ±1%, 1/16W
RD38	24872912	Chip, 9100 ohm, 1/16W
RD39	24872562	Chip, 5600 ohm, 1/16W
RD40	24872104	Chip, 100k ohm, 1/16W
RD41	24872104	Chip, 100k ohm, 1/16W
RD42	24000593	Chip, 10k ohm, ±1%, 1/16W
RD43	24000593	Chip, 10k ohm, ±1%, 1/16W
RD44	24000593	Chip, 10k ohm, ±1%, 1/16W
RD45	24872103	Chip, 10k ohm, 1/16W
RD46	24872183	Chip, 18k ohm, 1/16W
RD47	24872912	Chip, 9100 ohm, 1/16W
RD48	24872362	Chip, 3600 ohm, 1/16W
RD49	24872103	Chip, 10k ohm, 1/16W
RD50	24872203	Chip, 20k ohm, 1/16W
RD51	24872472	Chip, 4700 ohm, 1/16W
RD52	24872104	Chip, 100k ohm, 1/16W
RD53	24872123	Chip, 12k ohm, 1/16W
RD54	24872103	Chip, 10k ohm, 1/16W
RD55	24872153	Chip, 15k ohm, 1/16W
RD56	24872392	Chip, 3900 ohm, 1/16W
RD57	24872153	Chip, 15k ohm, 1/16W
RD58	24872562	Chip, 5600 ohm, 1/16W
RD59	24872123	Chip, 12k ohm, 1/16W
RD60	24872103	Chip, 10k ohm, 1/16W
RD61	24872105	Chip, 1M ohm, 1/16W
RD64	24872103	Chip, 10k ohm, 1/16W
RD65	24872101	Chip, 100 ohm, 1/16W
RD66	24871222	Chip, 2200 ohm, 1/8W
RD67	24871182	Chip, 1800 ohm, 1/8W
RD68	24872101	Chip, 100 ohm, 1/16W
RD69	24871105	Chip, 1M ohm, 1/8W
RD70	24872103	Chip, 10k ohm, 1/16W
RD71	24872102	Chip, 1k ohm, 1/16W
RD73	24872102	Chip, 1k ohm, 1/16W
RD74	24872102	Chip, 1k ohm, 1/16W
RD77	24872153	Chip, 15k ohm, 1/16W
RD78	24872103	Chip, 10k ohm, 1/16W
RD79	24872101	Chip, 100 ohm, 1/16W
RD80	24872101	Chip, 100 ohm, 1/16W
RD81	24872101	Chip, 100 ohm, 1/16W
RD82	24872101	Chip, 100 ohm, 1/16W
RG01	24366223	CF, 22k ohm
RG02	24366223	CF, 22k ohm
RG03	24366101	CF, 100 ohm
RG04	24366101	CF, 100 ohm
RG05	24366101	CF, 100 ohm
RG06	24366101	CF, 100 ohm
RG07	24366101	CF, 100 ohm
RG08	24366101	CF, 100 ohm
RG09	24366123	CF, 12k ohm
RG10	24366303	CF, 30k ohm
RG11	24366123	CF, 12k ohm

Location No.	Part No.	Description
RG12	24366303	CF, 30k ohm
RQ01	24366102	CF, 1k ohm
RQ02	24366475	CF, 4.7M ohm
RQ03	24366102	CF, 1k ohm
RQ04	24366511	CF, 510 ohm
RQ05	24366471	CF, 470 ohm
RQ06	24366471	CF, 470 ohm
RQ07	24366103	CF, 10k ohm
RQ08	24366102	CF, 1k ohm
RQ09	24366102	CF, 1k ohm
RQ10	24366102	CF, 1k ohm
RQ11	24366561	CF, 560 ohm
RQ12	24366561	CF, 560 ohm
RQ13	24366203	CF, 20k ohm
RQ14	24366273	CF, 27k ohm
RR01	24366472	CF, 4700 ohm
RR02	24366472	CF, 4700 ohm
RR03	24366472	CF, 4700 ohm
RR10	24366103	CF, 10k ohm
RR11	24366223	CF, 22k ohm
RR12	24366223	CF, 22k ohm
RR17	24366102	CF, 1k ohm
RR18	24366102	CF, 1k ohm
RR20	24366472	CF, 4700 ohm
RR21	24366103	CF, 10k ohm
RR22	24366473	CF, 47k ohm
RR23	24366101	CF, 100 ohm
RR24	24366101	CF, 100 ohm
RR25	24366101	CF, 100 ohm
RR26	24366101	CF, 100 ohm
RR27	24366473	CF, 47k ohm
RR28	24366473	CF, 47k ohm
RR29	24366473	CF, 47k ohm
RR30	24366472	CF, 4700 ohm
RR31	24366471	CF, 470 ohm
RR33	24366102	CF, 1k ohm
RR34	24366102	CF, 1k ohm
RR35	24366102	CF, 1k ohm
RR36	24366682	CF, 6800 ohm
RR37	24366682	CF, 6800 ohm
RR38	24366682	CF, 6800 ohm
RR93	24366472	CF, 4700 ohm
RS01	24366681	CF, 680 ohm
RS02	24366681	CF, 680 ohm
RS03	24366101	CF, 100 ohm
RS04	24366101	CF, 100 ohm
RS05	24366472	CF, 4700 ohm
RS06	24366472	CF, 4700 ohm
RS07	24366472	CF, 4700 ohm
RS08	24366472	CF, 4700 ohm
RS09	24366472	CF, 4700 ohm
RS10	24366472	CF, 4700 ohm
RS11	24366101	CF, 100 ohm
RS13	24366101	CF, 100 ohm
RS14	24366101	CF, 100 ohm
RS15	24366104	CF, 100k ohm
RS16	24366104	CF, 100k ohm
RS17	24366223	CF, 22k ohm
RS18	24366223	CF, 22k ohm
RS19	24366102	CF, 1k ohm
RS20	24366102	CF, 1k ohm
RS21	24366222	CF, 2200 ohm
RS22	24366222	CF, 2200 ohm
RS23	24366101	CF, 100 ohm

Location No.	Part No.	Description
RS24	24366101	CF, 100 ohm
RS27	24366104	CF, 100k ohm
RS28	24366104	CF, 100k ohm
RS29	24366223	CF, 22k ohm
RS30	24366223	CF, 22k ohm
RS31	24366103	CF, 10k ohm
RS32	24366104	CF, 100k ohm
RS35	24366223	CF, 22k ohm
RS36	24366223	CF, 22k ohm
RS37	24366104	CF, 100k ohm
RS38	24366104	CF, 100k ohm
RS43	24366681	CF, 680 ohm
RS44	24366681	CF, 680 ohm
RS45	24366681	CF, 680 ohm
RS46	24366681	CF, 680 ohm
RT01	24366332	CF, 3300 ohm
RT02	24366102	CF, 1k ohm
RT03	24366101	CF, 100 ohm
RT04	24366273	CF, 27k ohm
RT05	24366103	CF, 10k ohm
RT06	24366103	CF, 10k ohm
RT07	24366102	CF, 1k ohm
RT08	24366103	CF, 10k ohm
RT09	24366101	CF, 100 ohm
RT10	24366472	CF, 4700 ohm
RT11	24366392	CF, 3900 ohm
RT12	24366682	CF, 6800 ohm
RT13	24366103	CF, 10k ohm
RT14	24366222	CF, 2200 ohm
RT15	24366101	CF, 100 ohm
RT16	24366101	CF, 100 ohm
RT17	24366102	CF, 1k ohm
RT18	24366152	CF, 1500 ohm
RT19	24366122	CF, 1200 ohm
RT20	24366471	CF, 470 ohm
RT22	24366271	CF, 270 ohm
RT23	24366821	CF, 820 ohm
RV01	24366101	CF, 100 ohm
RV02	24366101	CF, 100 ohm
RV03	24366101	CF, 100 ohm
RV04	24366101	CF, 100 ohm
RV05	24366101	CF, 100 ohm
RV06	24366101	CF, 100 ohm
RV07	24366162	CF, 1600 ohm
RV08	24366162	CF, 1600 ohm
RV09	24366101	CF, 100 ohm
RV10	24366101	CF, 100 ohm
RV11	24366101	CF, 100 ohm
RV18	24366123	CF, 12k ohm
RV19	24366101	CF, 100 ohm
RV20	24366101	CF, 100 ohm
RV21	24366221	CF, 220 ohm
RV22	24366680	CF, 68 ohm
RV23	24552101	OMF, 100 ohm, 1/2W
RV25	24366101	CF, 100 ohm
RV26	24366181	CF, 180 ohm
RV27	24366750	CF, 75 ohm
RV30	24366750	CF, 75 ohm
RV31	24366103	CF, 10k ohm
RV32	24366750	CF, 75 ohm
RV33	24366123	CF, 12k ohm
RV34	24366123	CF, 12k ohm
RV35	24366103	CF, 10k ohm
RV36	24366103	CF, 10k ohm

Location No.	Part No.	Description
RV37	24366104	CF, 100k ohm
RV38	24366224	CF, 220k ohm
RV39	24366104	CF, 100k ohm
RV41	24366104	CF, 100k ohm
RV42	24366471	CF, 470 ohm
RV43	24366471	CF, 470 ohm
RV44	24366471	CF, 470 ohm
RV45	24366100	CF, 10 ohm
RV46	24366112	CF, 1100 ohm
RV47	24366102	CF, 1k ohm
RV48	24366102	CF, 1k ohm
RV49	24366102	CF, 1k ohm
RV52	24552101	OMF, 100 ohm, 1/2W
RV60	24366102	CF, 1k ohm
RV61	24366471	CF, 470 ohm
RV62	24366471	CF, 470 ohm
RV65	24552101	OMF, 100 ohm, 1/2W
RV66	24366101	CF, 100 ohm
RV67	24552820	OMF, 82 ohm, 1/2W
RV68	24366750	CF, 75 ohm
RV71	24366750	CF, 75 ohm
RV73	24366181	CF, 180 ohm
RV74	24366101	CF, 100 ohm
RV75	24366332	CF, 3300 ohm
RV76	24366220	CF, 22 ohm
RV77	24366182	CF, 1800 ohm
RV80	24366681	CF, 680 ohm
RV81(U902A)	24366681	CF, 680 ohm
RV81(U904)	24366750	CF, 75 ohm
RV82	24366220	CF, 22 ohm
RV83	24366220	CF, 22 ohm
RV84	24366220	CF, 22 ohm
RV85(U904)	24366510	CF, 51 ohm
RV85(U902A)	24366750	CF, 75 ohm
RV86(U904)	24366510	CF, 51 ohm
RV86(U902A)	24366103	CF, 10k ohm
RV87(U904)	24366510	CF, 51 ohm
RV87(U902A)	24366750	CF, 75 ohm
RV89	24366750	CF, 75 ohm
RV90	24366681	CF, 680 ohm
RV91	24366681	CF, 680 ohm
RZ01	24366471	CF, 470 ohm
RZ02	24366152	CF, 1500 ohm
RZ04	24366332	CF, 3300 ohm
RZ05	24366332	CF, 3300 ohm
RZ06	24366821	CF, 820 ohm
RZ07	24366822	CF, 8200 ohm
RZ08	24366332	CF, 3300 ohm
RZ12	24366471	CF, 470 ohm
RZ14	24366123	CF, 12k ohm
RZ15	24366392	CF, 3900 ohm
RZ16	24366122	CF, 1200 ohm
RZ17	24366331	CF, 330 ohm
RZ18	24366821	CF, 820 ohm
RZ19	24366471	CF, 470 ohm
RZ20	24366122	CF, 1200 ohm
RZ21	24366680	CF, 68 ohm
RZ22	24366101	CF, 100 ohm
RZ23	24366821	CF, 820 ohm
RZ24	24366821	CF, 820 ohm
RZ25	24366101	CF, 100 ohm
RZ26	24366101	CF, 100 ohm
RZ28	24366564	CF, 560k ohm
RZ29	24366331	CF, 330 ohm

Location No.	Part No.	Description
RZ30	24366331	CF, 330 ohm
RZ31	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L201	23289150	Coil, Peaking, TRF4150AF
L301	23103859	Coil (Ferrite Bead), TEM2011
L302	23237975	Coil, Peaking, TRF4101AC
L400	23289100	Coil, Peaking, TRF4100AF
L441	23233947	Coil, Linearity, TLN2144G
L442	23248117	Coil, Choke, TLN3382D
L443	23221684	Coil, Choke, TLN3191D
L461	23221896	Coil, Choke, TLN3061
⚠L462	----------	DY, Supplied with V901
L463	23103859	Coil (Ferrite Bead), TEM2011
L491	23248116	Coil, Choke, TLN3368D
L501	23289479	Coil, Peaking, TRF44R7AF
L503	23289470	Coil, Peaking, TRF4470AF
L601	23103859	Coil (Ferrite Bead), TEM2011
L602	23103859	Coil (Ferrite Bead), TEM2011
L676	23289109	Coil, Peaking, TRF41R0AF
L677	23289109	Coil, Peaking, TRF41R0AF
L682	23238562	Coil, Peaking, TRF4109AJ
L683	23238562	Coil, Peaking, TRF4109AJ
L702	23261974	Coil, Choke, HC5-035
L704	23103859	Coil (Ferrite Bead), TEM2011
L705	23103859	Coil (Ferrite Bead), TEM2011
L810	23103941	Coil (Ferrite Bead), TEM2000
L811	23103859	Coil (Ferrite Bead), TEM2011
L883	23221747	Coil, Choke, TRF9253D
L885	23248073	Coil, Choke, TLN3299D
L886	23103859	Coil (Ferrite Bead), TEM2011
L889	23222694	Coil, Width, TLN2026
L891	23103859	Coil (Ferrite Bead), TEM2011
L892	23103859	Coil (Ferrite Bead), TEM2011
L893	23222694	Coil, Width, TLN2026
L896	23103859	Coil (Ferrite Bead), TEM2011
⚠L901	23200276	Coil, Degaussing, TSB-2330BR
L902	23289101	Coil, Peaking, TRF4101AF
L903	23289101	Coil, Peaking, TRF4101AF
L904	23289101	Coil, Peaking, TRF4101AF
L905	23289390	Coil, Peaking, TRF4390AF
L906	23289390	Coil, Peaking, TRF4390AF
L907	23289390	Coil, Peaking, TRF4390AF
L908	23289100	Coil, Peaking, TRF4100AF
L910	23289479	Coil, Peaking, TRF44R7AF
LA01	23289100	Coil, Peaking, TRF4100AF
LB01	23262996	Coil, IF, TRF1169D
LD01	23103859	Coil (Ferrite Bead), TEM2011
LD02	23238714	Coil, Peaking, TRF4100AJ
LG41	23237999	Coil, Peaking, TRF4109AC
LQ01	23238709	Coil, Peaking, TRF4270AJ
LQ02	23238718	Coil, Peaking, TRF4479AJ
LQ03	23238718	Coil, Peaking, TRF4479AJ
LQ04	23238718	Coil, Peaking, TRF4479AJ
LT01	23289339	Coil, Peaking, TRF43R3AF
LT02	23238562	Coil, Peaking, TRF4109AJ
LT03	23289150	Coil, Peaking, TRF4150AF
LT04	23238714	Coil, Peaking, TRF4100AJ
LT05	23238714	Coil, Peaking, TRF4100AJ
LT06	23238714	Coil, Peaking, TRF4100AJ
LT07	23238714	Coil, Peaking, TRF4100AJ
LT08	23103859	Coil (Ferrite Bead), TEM2011
LT09	23238714	Coil, Peaking, TRF4100AJ
LT10	23238506	Coil, Peaking, TRF4229AJ
LT11	23238714	Coil, Peaking, TRF4100AJ
LT12	23238506	Coil, Peaking, TRF4229AJ
LT13	23238506	Coil, Peaking, TRF4229AJ
LV01	23103824	Coil, TEM2028K
LV37	23289150	Coil, Peaking, TRF4150AF
LV42	23289100	Coil, Peaking, TRF4100AF
LV43	23289100	Coil, Peaking, TRF4100AF
LV48	23238705	Coil, Peaking, TRF4560AJ
LZ01	23238712	Coil, Peaking, TRF4150AJ
LZ02	23238716	Coil, Peaking, TRF4689AJ
LZ03	23238716	Coil, Peaking, TRF4689AJ
LZ04	23238709	Coil, Peaking, TRF4270AJ
LZ05	23238716	Coil, Peaking, TRF4689AJ
LZ06	23238709	Coil, Peaking, TRF4270AJ
LZ07	23238709	Coil, Peaking, TRF4270AJ
LZ08	23238707	Coil, Peaking, TRF4390AJ
LZ09	70131060	Filter, ZBF253D-00
LZ10	70131060	Filter, ZBF253D-00
LZ11	23238709	Coil, Peaking, TRF4270AJ
⚠T401	23224336	Transformer, Horiz. Drive, TLN1083
⚠T461	23236447	Transformer, Flyback, TFB4115AR
⚠T801	23211891	Line Filter, TRF3164
⚠T803	23217301	Transformer, Converter, TPW3336AR

SEMICONDUCTORS

Q200	A6330059	Transistor, 2SC2482(C)
Q201	23314794	Transistor, 2PC1815Y
Q202	A6342206	Transistor, 2SC2878-A(TE
Q203	A6734590	Transistor, 2SC752(G)TM-Y
Q204	23314794	Transistor, 2PC1815Y
Q205	23314794	Transistor, 2PC1815Y
Q301	B0378560	IC, TA8427K
Q302	B0384683	IC, TA8859AP
Q320	23314791	Transistor, 2PA1015Y
Q321	A6342206	Transistor, 2SC2878-A(TE
Q322	A6342206	Transistor, 2SC2878-A(TE
Q370	23314791	Transistor, 2PA1015Y
Q402	A678971D	Transistor, 2SC1569 FA-5
⚠Q404	A6872801	Transistor, 2SD2253(FA)
Q420(U902A)	A6002040	Transistor, RN1204
Q420(U903)	23314141	Transistor, 2SC3852
Q421(U903)	23314794	Transistor, 2PC1815Y
Q421(U902A)	A6002040	Transistor, RN1204
Q422	A6012030	Transistor, RN2203
Q423	23314794	Transistor, 2PC1815Y
Q424	23314794	Transistor, 2PC1815Y
Q425	A6002040	Transistor, RN1204
Q430	A6333346	Transistor, 2SC2655-Y(C)
Q460	23314850	Transistor, 2SA1788-E
Q461	23314794	Transistor, 2PC1815Y
Q462	23314794	Transistor, 2PC1815Y
Q470	23314794	Transistor, 2PC1815Y
Q501	B0385673	IC, TA1222AN
Q502	23314794	Transistor, 2PC1815Y
Q503	23314794	Transistor, 2PC1815Y
Q611	23314791	Transistor, 2PA1015Y
Q612	23314791	Transistor, 2PA1015Y
Q640	B0376856	IC, TA8211AH
Q641	A6342206	Transistor, 2SC2878-A(TE
Q642	A6342206	Transistor, 2SC2878-A(TE
Q670	B0377307	IC, TA8256H

Location No.	Part No.	Description
Q671	A6342206	Transistor, 2SC2878-A(TE
Q672	A6342206	Transistor, 2SC2878-A(TE
Q673	A6342206	Transistor, 2SC2878-A(TE
Q688	A6002040	Transistor, RN1204
Q705	23314794	Transistor, 2PC1815Y
Q706	23314794	Transistor, 2PC1815Y
Q707	A6734590	Transistor, 2SC752(G)TM-Y
Q709	23314794	Transistor, 2PC1815Y
Q710	23314791	Transistor, 2PA1015Y
Q711	A6546665	Transistor, 2SA1306-Y
Q712	A6359135	Transistor, 2SC3298A-Y
Q719	23314794	Transistor, 2PC1815Y
Q720	23314794	Transistor, 2PC1815Y
⚠Q801	23905084	IC, STR-S6709
Q802	23314141	Transistor, 2SC3852
⚠Q826	A8643106	Photo Coupler, TLP621(GR)
Q830	23314141	Transistor, 2SC3852
Q740	23318299	IC, L78MR05
Q901	23314811	Transistor, 2SC5147
Q902	23314794	Transistor, 2PC1815Y
Q903	23314811	Transistor, 2SC5147
Q904	23314794	Transistor, 2PC1815Y
Q905	23314811	Transistor, 2SC5147
Q906	23314794	Transistor, 2PC1815Y
Q907	A6509154	Transistor, 2SA562TM-Y(T)
Q908	A6321240	Transistor, 2SC2120-Y
Q910	23314794	Transistor, 2PC1815Y
Q911	23314794	Transistor, 2PC1815Y
Q912	23314791	Transistor, 2PA1015Y
Q913	23314791	Transistor, 2PA1015Y
Q914	23314794	Transistor, 2PC1815Y
QA01	23905310	IC, TMP87CP38N-3228
QA02	23904666	IC, NM24C08EN
QB01	23314794	Transistor, 2PC1815Y
QB03	A6002050	Transistor, RN1205
QB30	23314794	Transistor, 2PC1815Y
QD01	23905042	IC, YSS215-F
QD02	B0478127	IC, TC51832AFL-8
QD03	23905041	IC, YSS238-D
QD04	B0470534	IC, TC4053BF
QD05	B0345640	IC, TA7508F
QD06	B0345640	IC, TA7508F
QD07	B0345640	IC, TA7508F
QD08	B0470534	IC, TC4053BF
QD10	B0345640	IC, TA7508F
QD11	B0350020	IC, TA75458F
QD12	B0385640	IC, TA1216N
QG01	B0385647	IC, TA1217AN
QQ01	B0385755	IC, TA1229N
QQ02	B0383881	IC, TA8772AN
QQ03	23314794	Transistor, 2PC1815Y
QQ04	23314794	Transistor, 2PC1815Y
QR01	B0487584	IC, TC74HC4053AP
QR04	23314791	Transistor, 2PA1015Y
QR05	23314791	Transistor, 2PA1015Y
QR06	23314791	Transistor, 2PA1015Y
QR17	23314794	Transistor, 2PC1815Y
QR19	A6734590	Transistor, 2SC752(G)TM-Y
QR20	23314794	Transistor, 2PC1815Y
QR21	23314794	Transistor, 2PC1815Y
QR22	A6734590	Transistor, 2SC752(G)TM-Y
QS01	A6342206	Transistor, 2SC2878-A(TE
QS02	A6342206	Transistor, 2SC2878-A(TE
QS03	A6342206	Transistor, 2SC2878-A(TE

Location No.	Part No.	Description
QS04	A6342206	Transistor, 2SC2878-A(TE
QS05	A6342206	Transistor, 2SC2878-A(TE
QS06	A6342206	Transistor, 2SC2878-A(TE
QS07	A6010040	Transistor, RN2004
QS08	A6342206	Transistor, 2SC2878-A(TE
QS09	A6342206	Transistor, 2SC2878-A(TE
QT01	23904899	IC, SAA5281ZP/E
QT02	23314794	Transistor, 2PC1815Y
QT03	23314794	Transistor, 2PC1815Y
QT04	23314791	Transistor, 2PA1015Y
QT05	23314794	Transistor, 2PC1815Y
QT06	23314791	Transistor, 2PA1015Y
QV01	B0385650	IC, TA1218N
QV02	23314794	Transistor, 2PC1815Y
QV03	23314794	Transistor, 2PC1815Y
QV04	23314794	Transistor, 2PC1815Y
QV05	23314791	Transistor, 2PA1015Y
QV06	23314791	Transistor, 2PA1015Y
QV09	23314794	Transistor, 2PC1815Y
QV10	23314794	Transistor, 2PC1815Y
QV11	A6002030	Transistor, RN1203
QV12	23314794	Transistor, 2PC1815Y
QV13	23314794	Transistor, 2PC1815Y
QZ01	B0410687	IC, TC9090N
QZ02	23319504	IC, MM1031XS
QZ03	23314794	Transistor, 2PC1815Y
QZ04	23314794	Transistor, 2PC1815Y
QZ05	23314794	Transistor, 2PC1815Y
QZ06	23314794	Transistor, 2PC1815Y
D101	23316411	Diode, 1SS184
D201	23115599	Diode, 1N4148
D208	23115599	Diode, 1N4148
D301	23118095	Diode, ERB44-06
D302	23118479	Diode, BYD33J
D303	23316794	Diode, SC570A
D306	23115599	Diode, 1N4148
D308	23118822	Diode, ERB12-02
D309	23118822	Diode, ERB12-02
D370	23316666	Diode, Zener, MTZJ4.7B
D371	23115599	Diode, 1N4148
D390	23115599	Diode, 1N4148
D406	23118479	Diode, BYD33J
D420	23316680	Diode, Zener, MTZJ7.5A
D430	23316670	Diode, Zener, MTZJ5.1C
D431	23115599	Diode, 1N4148
D432	23316670	Diode, Zener, MTZJ5.1C
D441	23316687	Diode, Zener, MTZJ9.1B
D460	23118479	Diode, BYD33J
D461	23316582	Diode, ERC20-06
D463	23115599	Diode, 1N4148
D464	23316718	Diode, Zener, MTZJ12A
D465	23316672	Diode, Zener, MTZJ5.6B
D466	23316672	Diode, Zener, MTZJ5.6B
D467	23118479	Diode, BYD33J
D468	23316718	Diode, Zener, MTZJ12A
D474	23316719	Diode, Zener, MTZJ12B
D611	23115599	Diode, 1N4148
D612	23115599	Diode, 1N4148
D613	23115599	Diode, 1N4148
D614	23115599	Diode, 1N4148
D615	23115599	Diode, 1N4148
D640	23115599	Diode, 1N4148
D641	23115599	Diode, 1N4148
D642	23115599	Diode, 1N4148

Location No.	Part No.	Description
D643	23115599	Diode, 1N4148
D670	23115599	Diode, 1N4148
D671	23115599	Diode, 1N4148
D674	23115599	Diode, 1N4148
D675	23115599	Diode, 1N4148
D704	23115599	Diode, 1N4148
D705	23115599	Diode, 1N4148
D706	A7568475	Diode, TVR-2D
D707	A7568475	Diode, TVR-2D
D715	23115599	Diode, 1N4148
D720	23115599	Diode, 1N4148
D721	23115599	Diode, 1N4148
⚠D801	23316795	Diode, D6SB60L,F05
D802	23118479	Diode, BYD33J
D803	23118479	Diode, BYD33J
D804	23316678	Diode, Zener, MTZJ6.8B
D805	23115599	Diode, 1N4148
D806	23118479	Diode, BYD33J
D808	23118479	Diode, BYD33J
D809	23316672	Diode, Zener, MTZJ5.6B
D810	23115599	Diode, 1N4148
D811	23115599	Diode, 1N4148
D815	23316725	Diode, Zener, MTZJ15B
D828	23115599	Diode, 1N4148
D871	23115599	Diode, 1N4148
D872	23115599	Diode, 1N4148
D883	23316406	Diode, FML-G16S
D885	23316184	Diode, FML-G12S
D891	23118052	Diode, RU4Z
D892	23316673	Diode, Zener, MTZJ5,6C
D892	23118052	Diode, RU4Z
D896	23118479	Diode, BYD33J
D901	23115599	Diode, 1N4148
D903	23115599	Diode, 1N4148
D904	23115599	Diode, 1N4148
D905	23115599	Diode, 1N4148
D906	23115599	Diode, 1N4148
D907	23115599	Diode, 1N4148
D908	23115599	Diode, 1N4148
D909	23115599	Diode, 1N4148
D910	23115599	Diode, 1N4148
D911	23118479	Diode, BYD33J
DB01	23358505	LED, SLR56VC196F
DB02	23358503	LED, SCL003MC3FX
DB03	23358522	LED, SIR-56SB3F
DB30	23115599	Diode, 1N4148
DD01	A7150650	Diode, 1SS184
DD02	A7150650	Diode, 1SS184
DD03	A7150650	Diode, 1SS184
DR01	23115599	Diode, 1N4148
DR02	23115599	Diode, 1N4148
DR03	23316666	Diode, Zener, MTZJ4.7B
DR04	23115599	Diode, 1N4148
DR05	23115599	Diode, 1N4148
DR06	23115599	Diode, 1N4148
DV01	23316687	Diode, Zener, MTZJ9.1B
DV02	23316687	Diode, Zener, MTZJ9.1B
DV03	23316687	Diode, Zener, MTZJ9.1B
DV04	23316687	Diode, Zener, MTZJ9.1B
DV05	23316687	Diode, Zener, MTZJ9.1B
DV06	23316687	Diode, Zener, MTZJ9.1B
DV07	23316687	Diode, Zener, MTZJ9.1B
DV08	23115599	Diode, 1N4148
DV09	23115599	Diode, 1N4148
DV10	23115599	Diode, 1N4148
DV11	23115599	Diode, 1N4148
DZ01	23118622	Diode, Zener, RD10ESA B2

MISCELLANEOUS

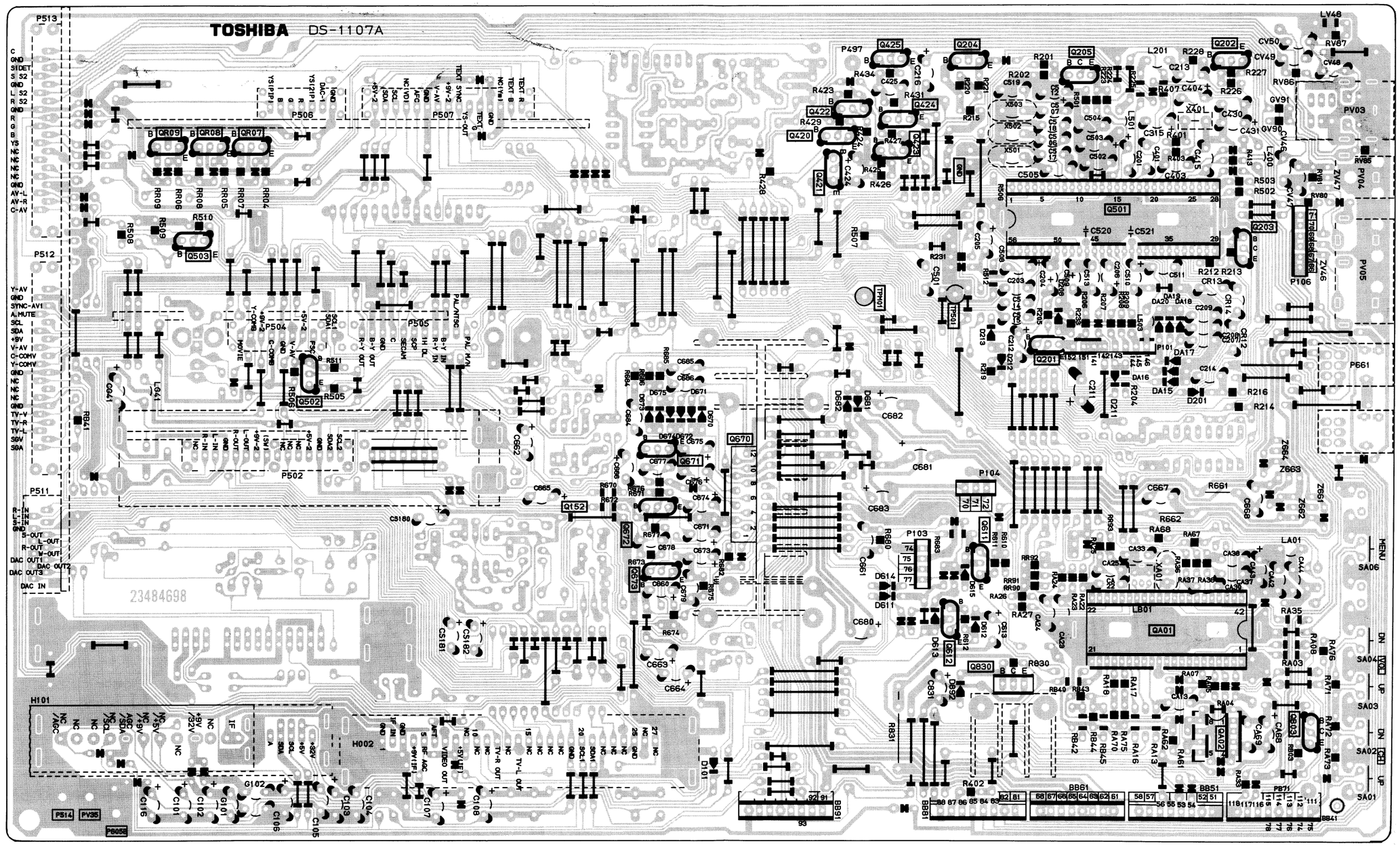
Location No.	Part No.	Description
⚠F470	23144873	Fuse, 1.0A
F470A	23165433	Holder, Fuse
F470B	23165433	Holder, Fuse
⚠F801	23144898	Fuse, 3.15A
F801A	23165433	Holder, Fuse
G101	23289100	Coil, Peaking, TRF4100AF
H002	23148250	Module, MVGS44A, IGR BG/DK
KB01	23904946	Remote Sensor, RPM-676CBR-S
P004	23161702	Terminal, 8P
P005	23161596	Terminal, 2P
P661	23363607	Headphone Jack, 3.5mm
⚠P801	23372014	Power Cord
PV01	23365843	Jack, 1S 6P
PV03	23365546	Jack, 2C-2P
PV04	23363252	Pin Jack, Yellow
PV05	23365508	Jack, Phono
S601	23145355	Switch, Slide, 4C-2P
⚠S801	23344395	Switch, Power
SA01	23145430	Switch, Push, 1C1P
SA02	23145430	Switch, Push, 1C1P
SA03	23145430	Switch, Push, 1C1P
SA04	23145430	Switch, Push, 1C1P
SA06	23145430	Switch, Push, 1C1P
⚠V901A	23902891	Socket, CRT, 10P
W008	23351002	Speaker, SPK-1276, 80x80mm, 8 ohm
W661	23351116	Speaker, SPK-1382, 60x120mm, 8 ohm
W662	23351116	Speaker, SPK-1382, 60x120mm, 8 ohm
W665	23351080	Speaker, SPK-1352, 100x100mm, 6 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153961	Crystal, 3.58MHz
X503	23153979	Crystal, 4.43MHz
XA01	23153325	Ceramic Resonator, 8.00M, TCR1056
XD01	23153399	Filter, TCR1066, 11.5MHz
XQ01	23153969	Crystal, 4MHz
XT01	23153012	Crystal, 27MHz
Z101	23436555	Stand Assembly
Z643	23107742	Filter, TEM1014
Z645	23107742	Filter, TEM1014
Z661	23107744	Filter, TEM1012
Z664	23107744	Filter, TEM1012
Z801	23904998	IC, HIC1016
Z889	23144543	Protector, PRF50005491, 125V, 5A
Z890	23144543	Protector, PRF50005491, 125V, 5A
Z891	23144543	Protector, PRF50005491, 125V, 5A
Z895	23144450	Protector, PRF2000, 125V, 2A
Z896	23144539	Protector, PRF20005491, 125V, 2A
ZD01	23303108	Filter, TLC1203T

Location No.	Part No.	Description
ZD02	23303108	Filter, TLC1203T
PC BOARD ASSEMBLIES		
*U902A	23704477	Signal Board, PB5655B
*U903	23704363	Power/Def Board, PB5656X
*U904	23704364	Back/AV Board, PB5657X
*U905	23704367	CRT Drive/DSM Board, PB5659X
*U906	23704498	Comb/SECAM Board, PB5661X
*U907	23704369	Text/RGB Board, PB5662X
*Y991Z	23793227	P-Logic Board, PB5665
PICTURE TUBE		
⚠V901	23312645	Picture Tube, A66EAK252X21
TUNER		
H001	23321162	Tuner, EG465LX1
ACCESSORIES		
K902	23306069	Remote Hand Unit, CT-9763
Y101	23562452	Owner's Manual, German, 2857DD
Y102	23562453	Owner's Manual, Italian, 2857DD

Location No.	Part No.	Description

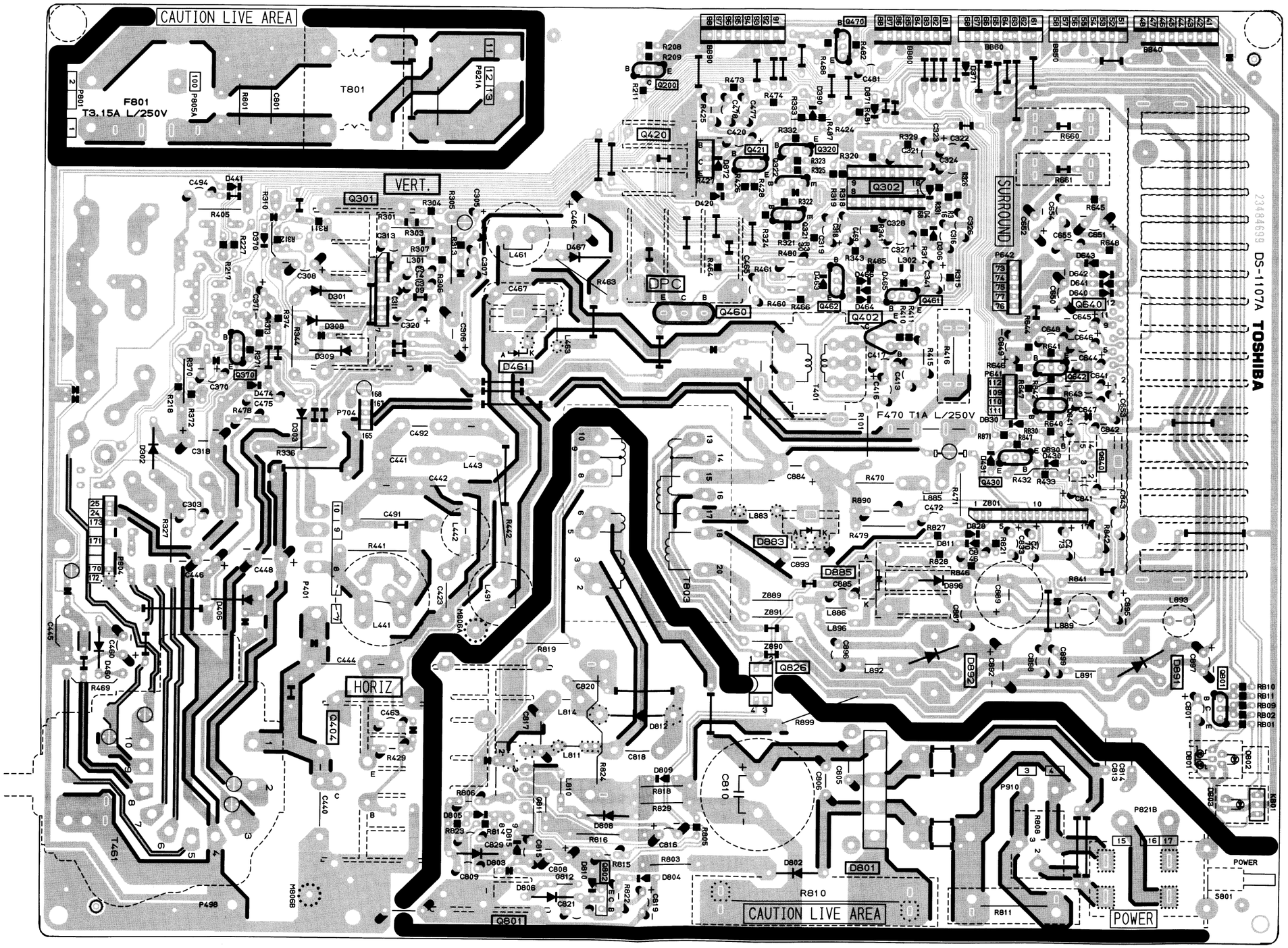
SIGNAL BOARD PB5747

BOTTOM (FOIL) SIDE



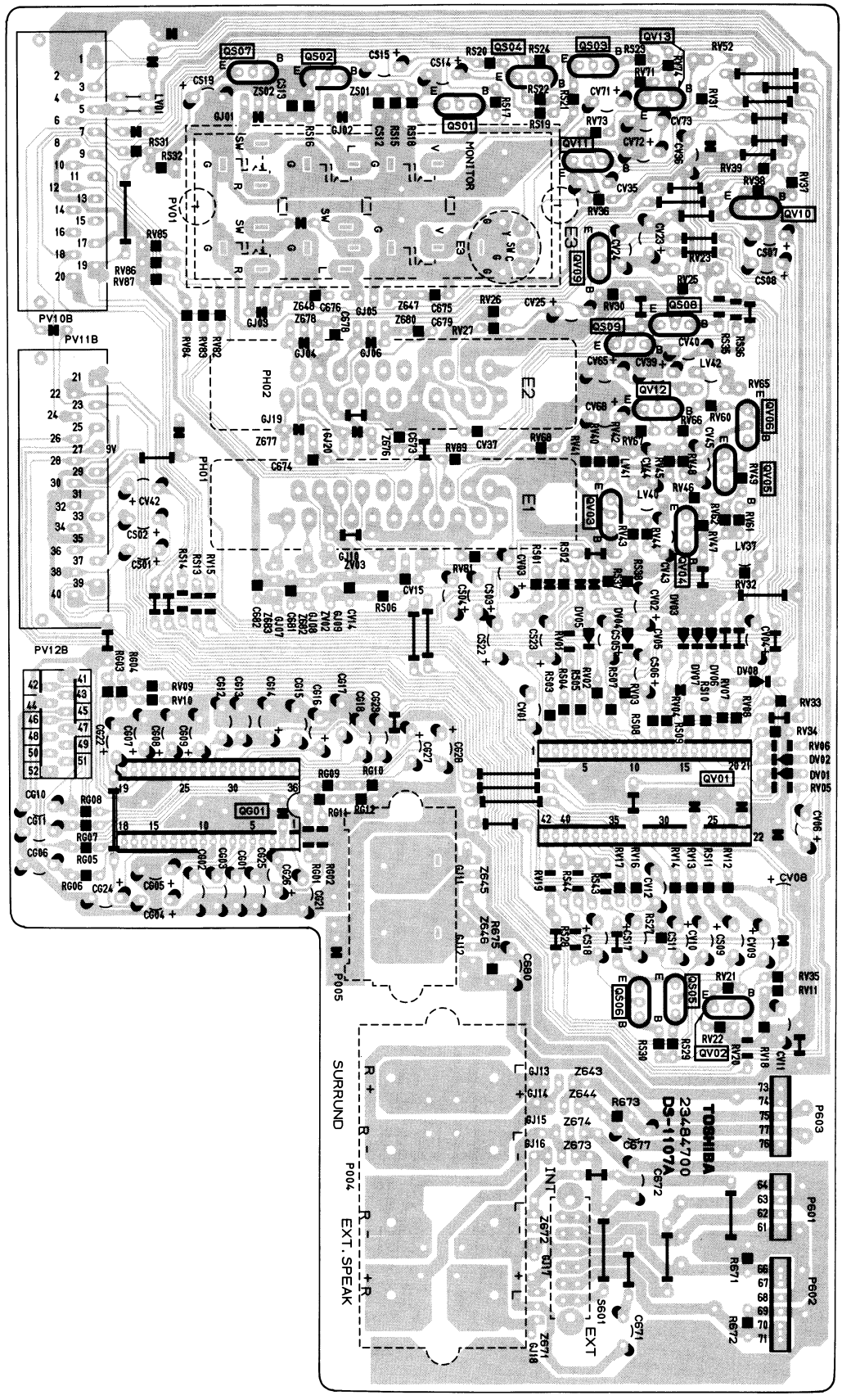
POWER/DEF BOARD PB5748

BOTTOM (FOIL) SIDE



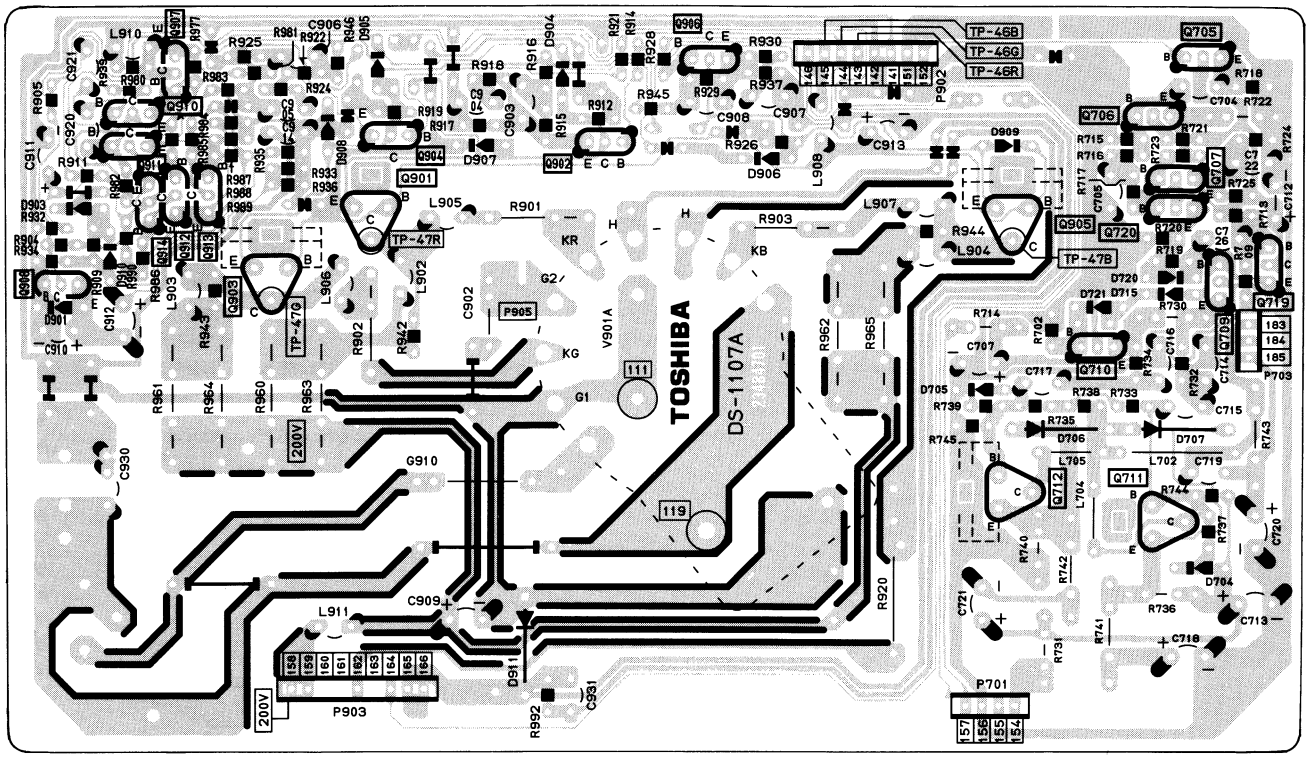
BACK TERMINAL/AV BOARD PB5657X

BOTTOM (FOIL) SIDE



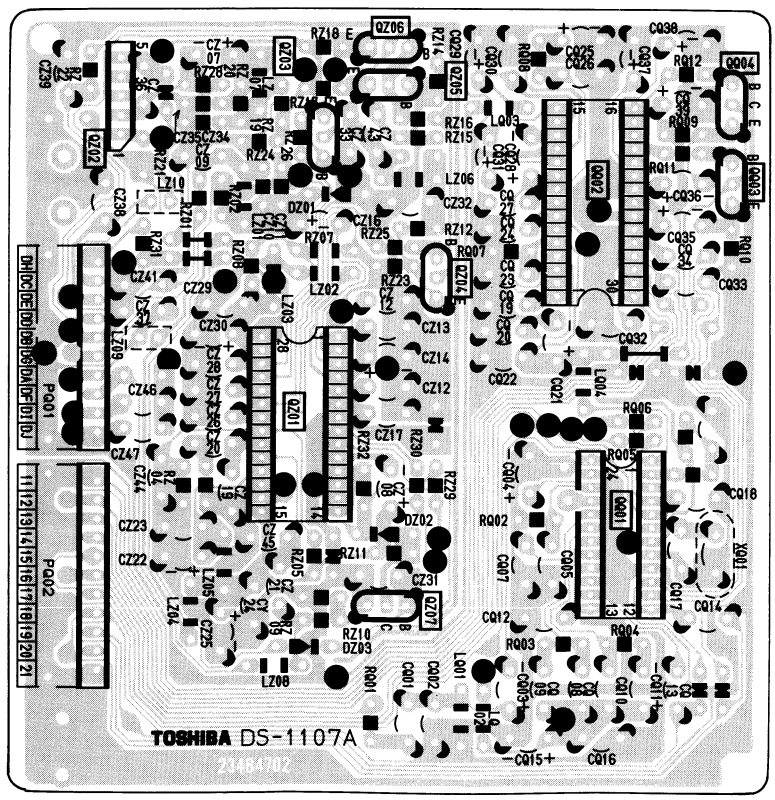
CRT. DRIVE/DSM BOARD PB5659X

BOTTOM (FOIL) SIDE



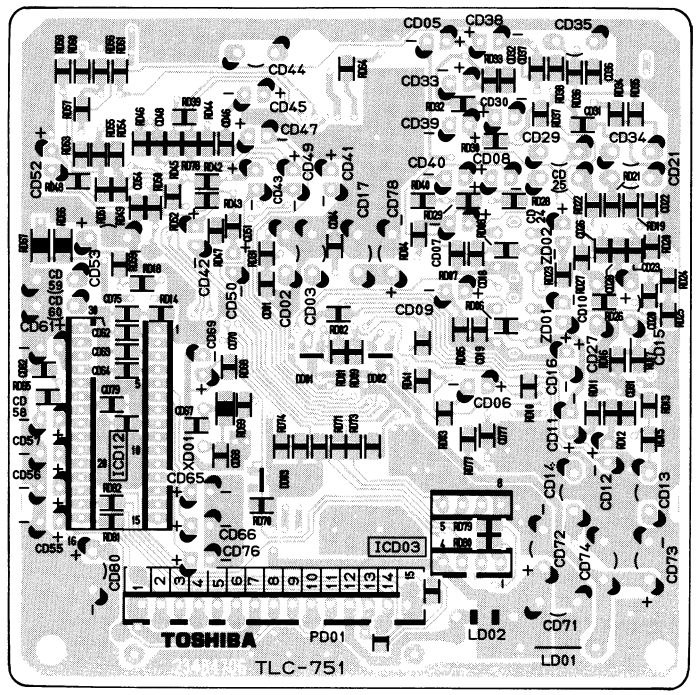
COMB/1H DL BOARD PB5763

BOTTOM (FOIL) SIDE



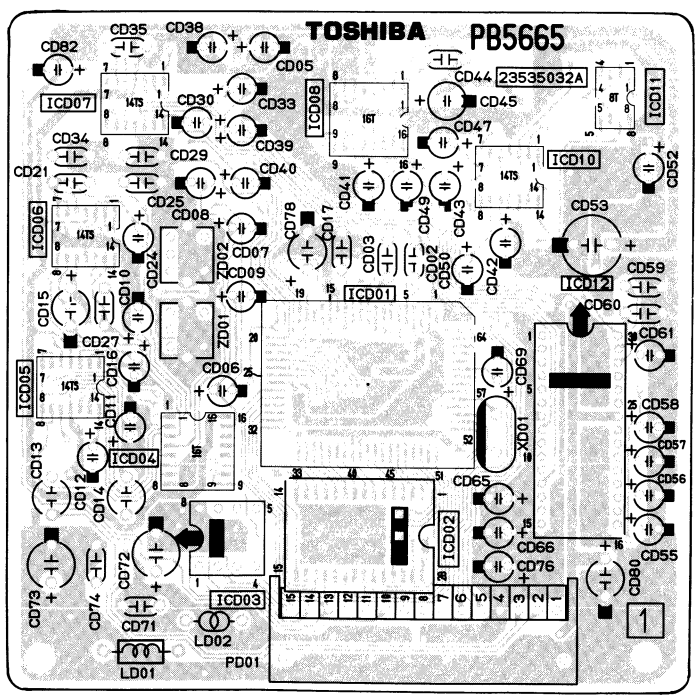
PRO-LOGIC BOARD PB5665

BOTTOM (FOIL) SIDE



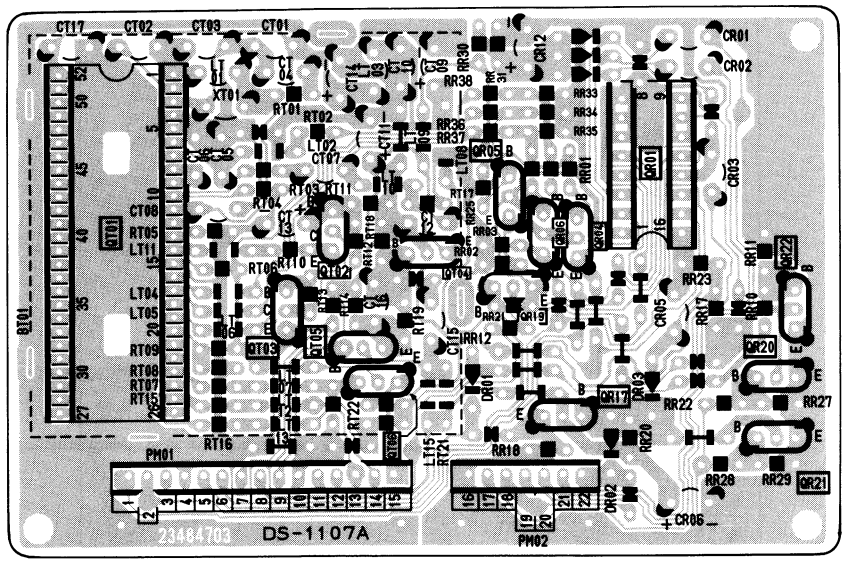
PRO-LOGIC BOARD PB5665

TOP (PARTS) SIDE



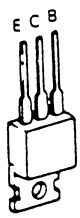
TEXT/RGB SW BOARD PB5662X

BOTTOM (FOIL) SIDE

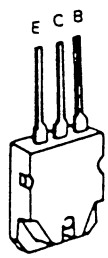


TERMINAL VIEW OF TRANSISTORS

① 2SC1569



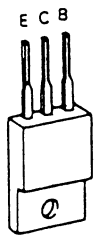
② 2SC3927(A)



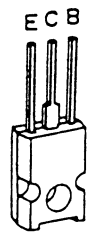
③ 2SC2580-C
2SC2655

④ 2SA933S
2SA1015-Y
2SA1320-Y
2SC752GTM
2SC1685-Q
2SC1740S
2SC1815-N
2SC1959-Y
2SC2120-Y
2SC2878-A

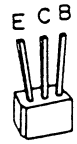
⑤ 2SB1186A
2SC3852
2SD2253



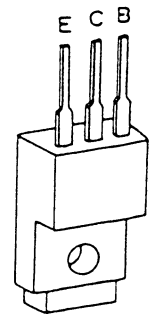
⑥ 2SC3619



⑦ RN1203
RN1204
RN1206
RN2004



⑧ 2SB1186A
2SD1763A



SCHEMATIC DIAGRAM MODEL: 2857DD (1/4)

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

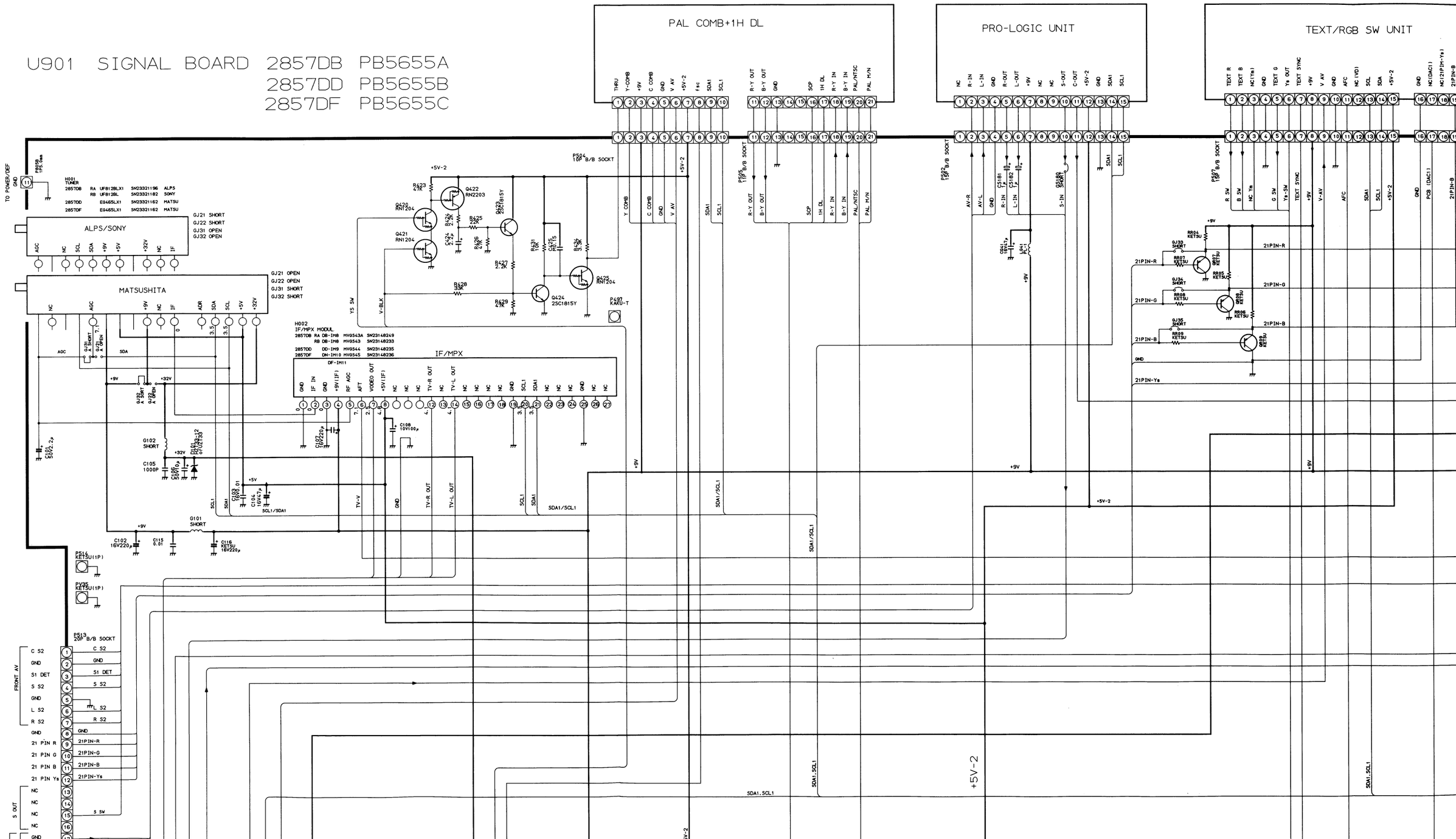
OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

NOTES:

1. D.C. resistance value of a principal t
   gram. These are measured for separate
2. The circuits are subject to change with
3. ⬬ : Solder links.

U901 SIGNAL BOARD 2857DB PB5655A
2857DD PB5655B
2857DF PB5655C



NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ● : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

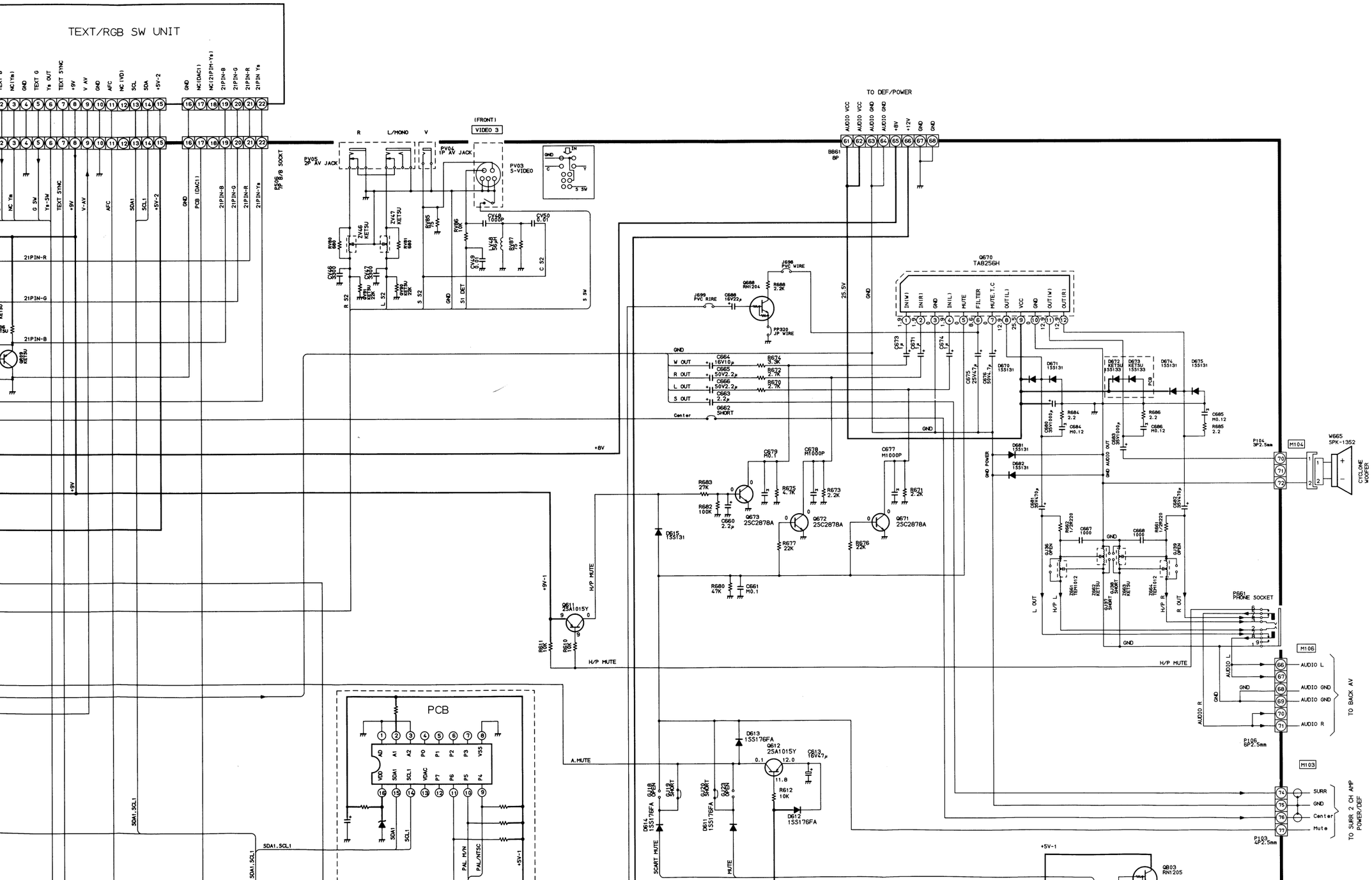
RESISTOR

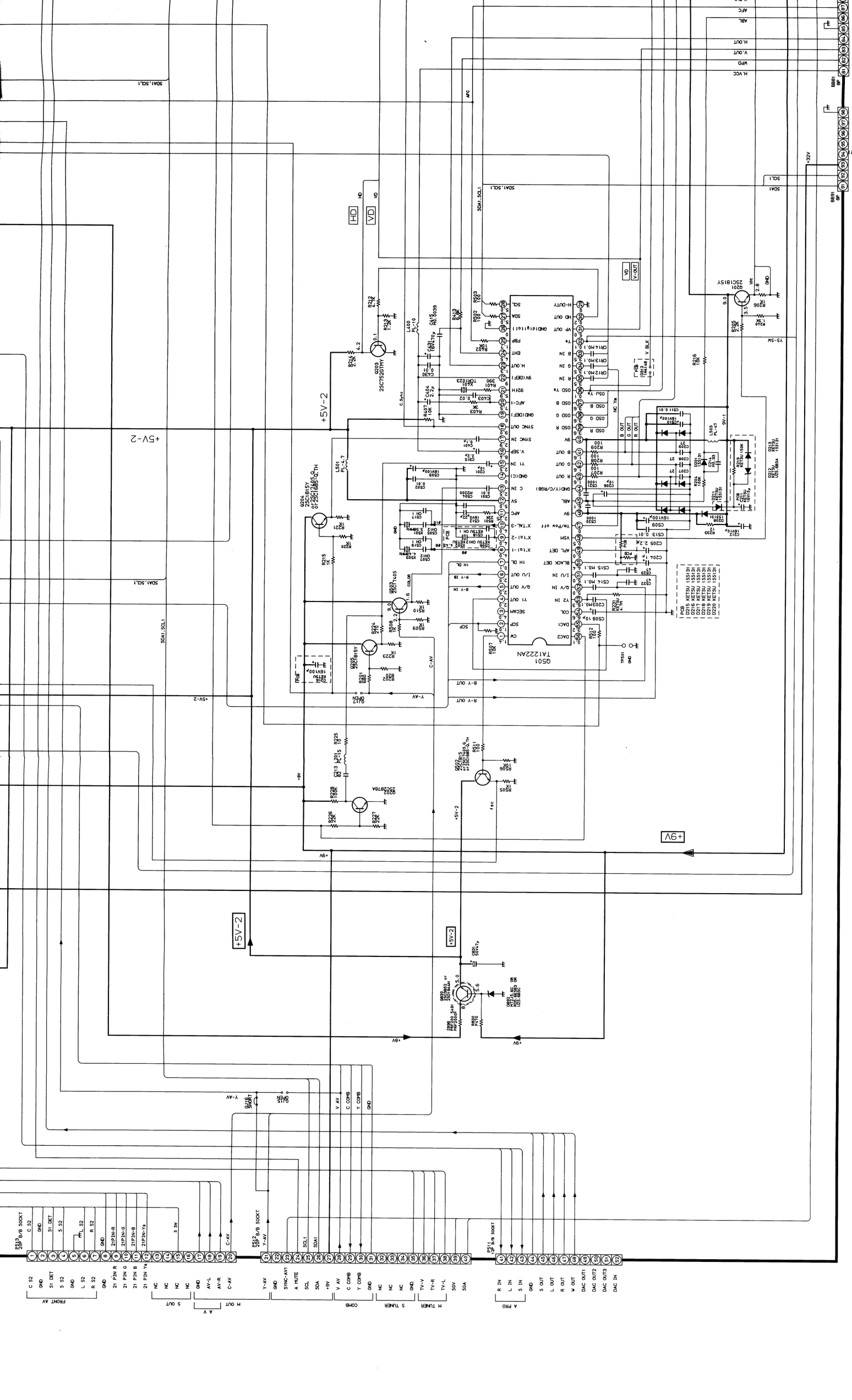
Table 1

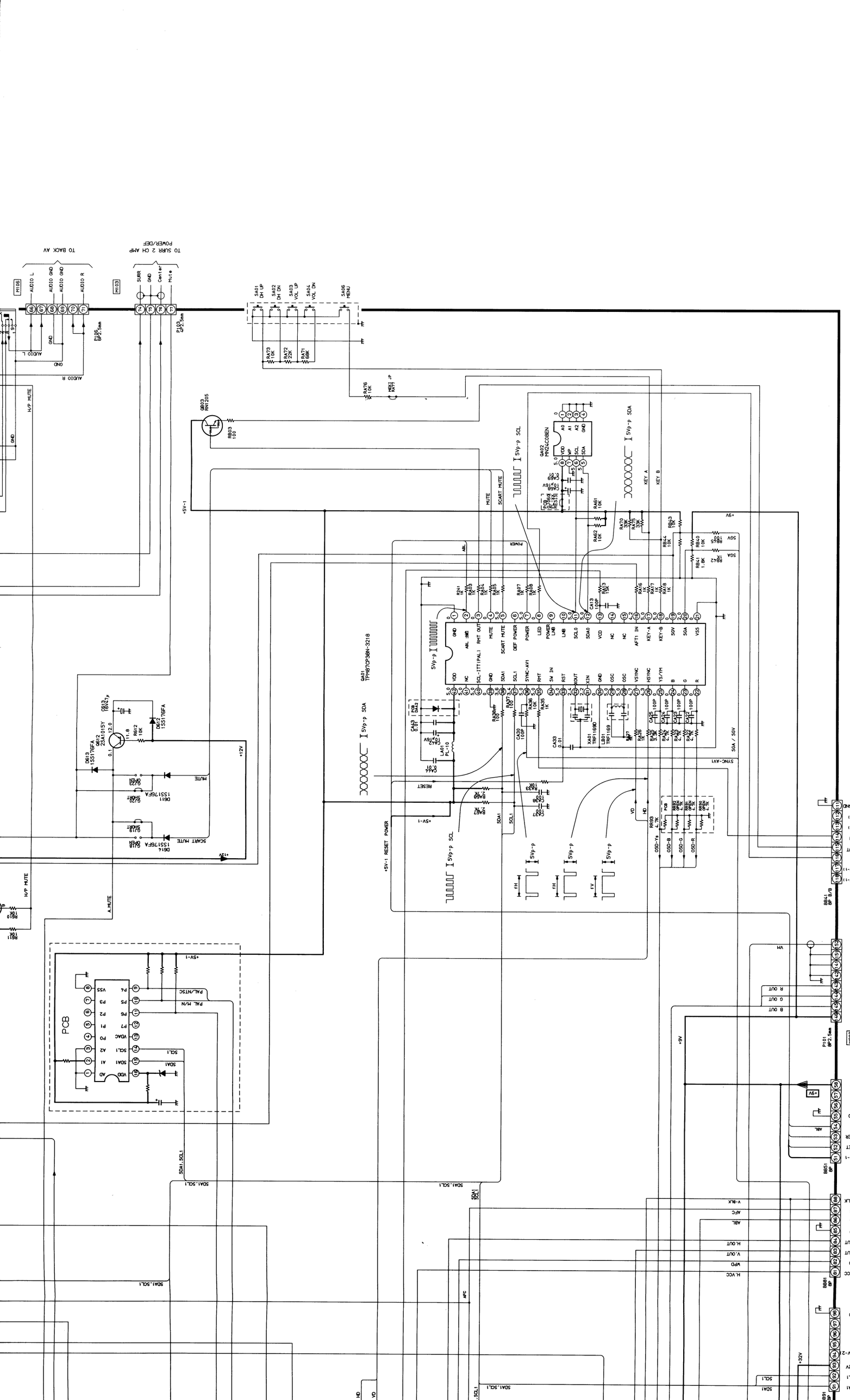
Type	Mark
Carbon Composition	S
Oxide Metal Film	R
Insulated Carbon Film	P
Cement	W
Variable Resistor	
Fusible Resistor	FR

Table 2

Watt	Mark	Watt	Mark
1/6 W		3 W	3
1/8 W		5 W	5
1/4 W		10 W	10
1/2 W		15 W	15
1 W	1	20 W	20
2 W	2	25 W	25




TA1222AN
G501
+5V-2
+9V
+8V
SDA1.SCL1
HD
VD
AFC
C-AV
Y-AV
R-Y OUT
B-Y OUT
TO POWER/DEF
FRONT AV
S OUT
M OUT
A V
COMB
S TUNER
M TUNER
A PRO


TO BACK AV
TO SURR 2 CH AMP
POWER/DEF
M106
AUDIO L
AUDIO GND
AUDIO GND
AUDIO R
M103
SURR
GND
Center
Mute
P106 6P2.5mm
P103 4P2.5mm
SA01 CH UP
SA02 CH DN
SA03 VOL UP
SA04 VOL DN
SA05 MENU
RA73 10K
RA72 22K
RA71 68K
RA76 10K
MUTE
QB03 RN1205
RB03 10K
+5V-1
QA01 TPH87CP38N-3218
SCART MUTE
DEF POWER
SYNC-AV1
SW IN
XOUT
XIN
OSC
VSYNC
HSYNC
AFT1 IN
KEY-A
KEY-B
SDA
SCL
VDD
GND
VSS
RESET
POWER
ABL
LED
RHT OUT
RHT IN
NC (KEY1)
NC (KEY2)
F-CON GND
TO DEF/POWER
PCB
E/M
RB31
Z896
CS20 COPPER SIDE
CS21 COPPER SIDE
CS22 COPPER SIDE
CS23 COPPER SIDE
R240 COPPER SIDE
BB41 6P 8/8
P101 8P2.5mm
M902
CRT.D
VM
R OUT
G OUT
B OUT
9V
BB51 6P
BB81 6P
TO POWER/DEF
V-BLK
AFC
H.VCC
WPD
V.OUT
H.OUT
SDA1
SCL1
-32V
+32V
PCB
PAL/NTSC
PAL H/N
SDA1,SCL1
H/P MUTE
A.MUTE
+12V
DB13 1SS176FA
DB12 1SS176FA
DB11 1SS176FA
DB14 1SS176FA
QB12 2SA1015Y
RB12 10K
RB11 10K
RB10 10K
SHORT
SCART MUTE
DEF POWER
MUTE
SDA01 24C02BEN
RA61 10K
RA62 10K
RA70 33K
RA75 33K
RB43 10K
RB44 10K
RB40 10K
RB41 1.8K
RB42 3.9K
RB45 100
KEY A
KEY B
5Vp-p SCL
5Vp-p SDA
RESET
SGA / SGV
SYNC-AV1
OSD-R
OSD-G
OSD-B
OSD-Yo
VD
HD
fH
fV
LA01 PL-10
XA01 TRF1169D
LB01 TRF1169
CA13 100P
CA33 0.01
CA30 100P
CA25 100P
CA26 100P
CA27 100P
CA22 100P
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RA35 1K
RA39 100
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RA34 1K
RA05 1K
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RA03 1K
RA07 1K
RA06 1K
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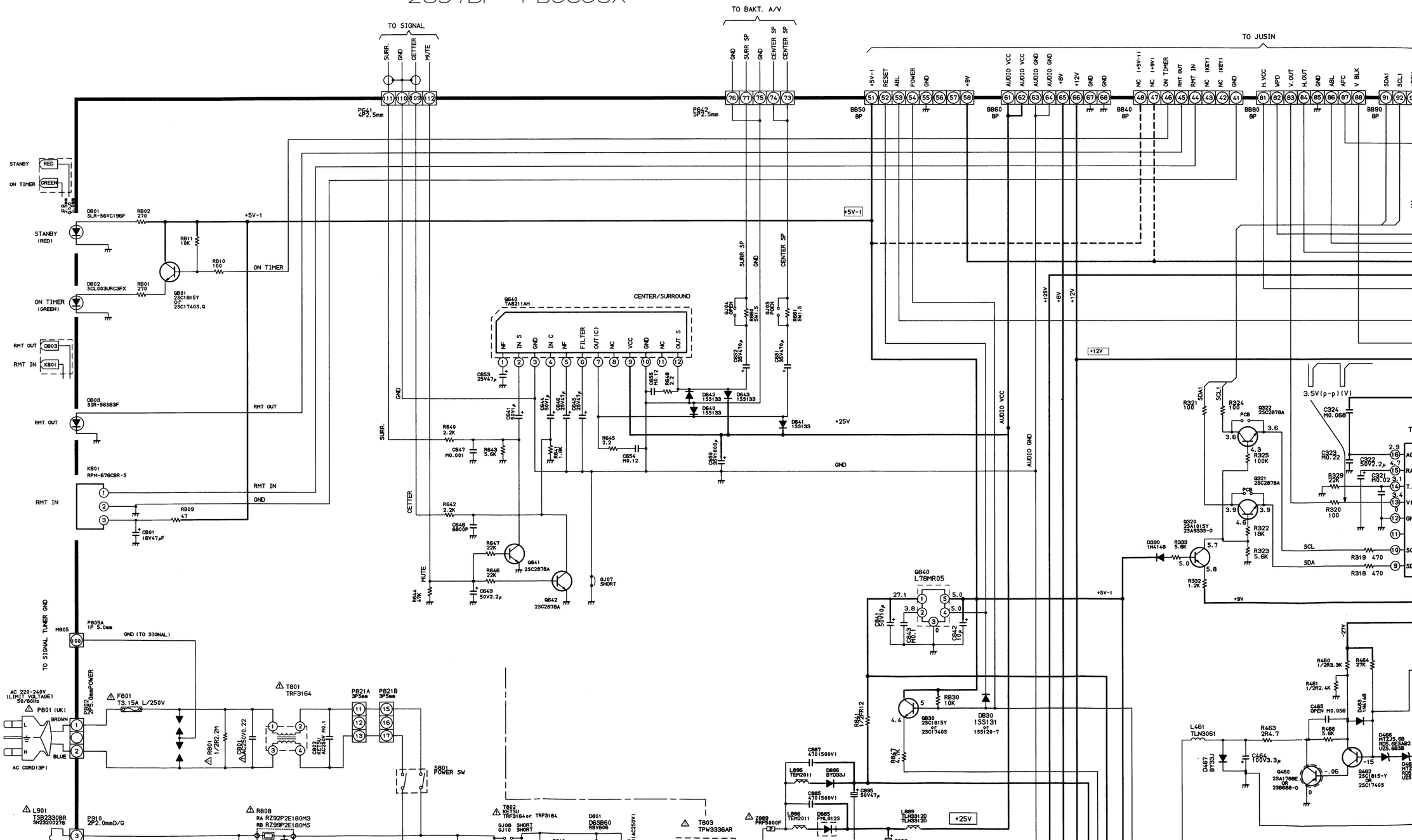
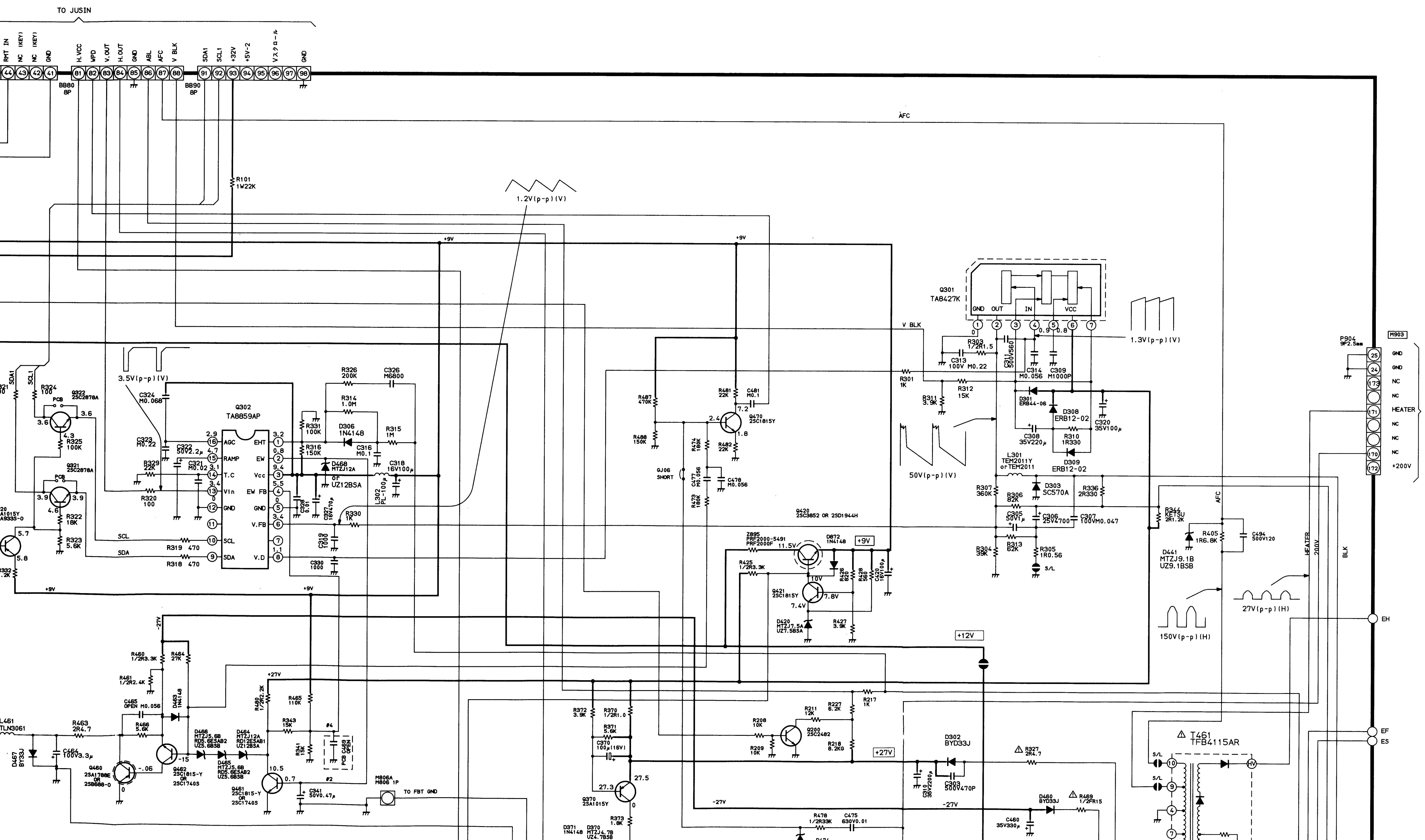
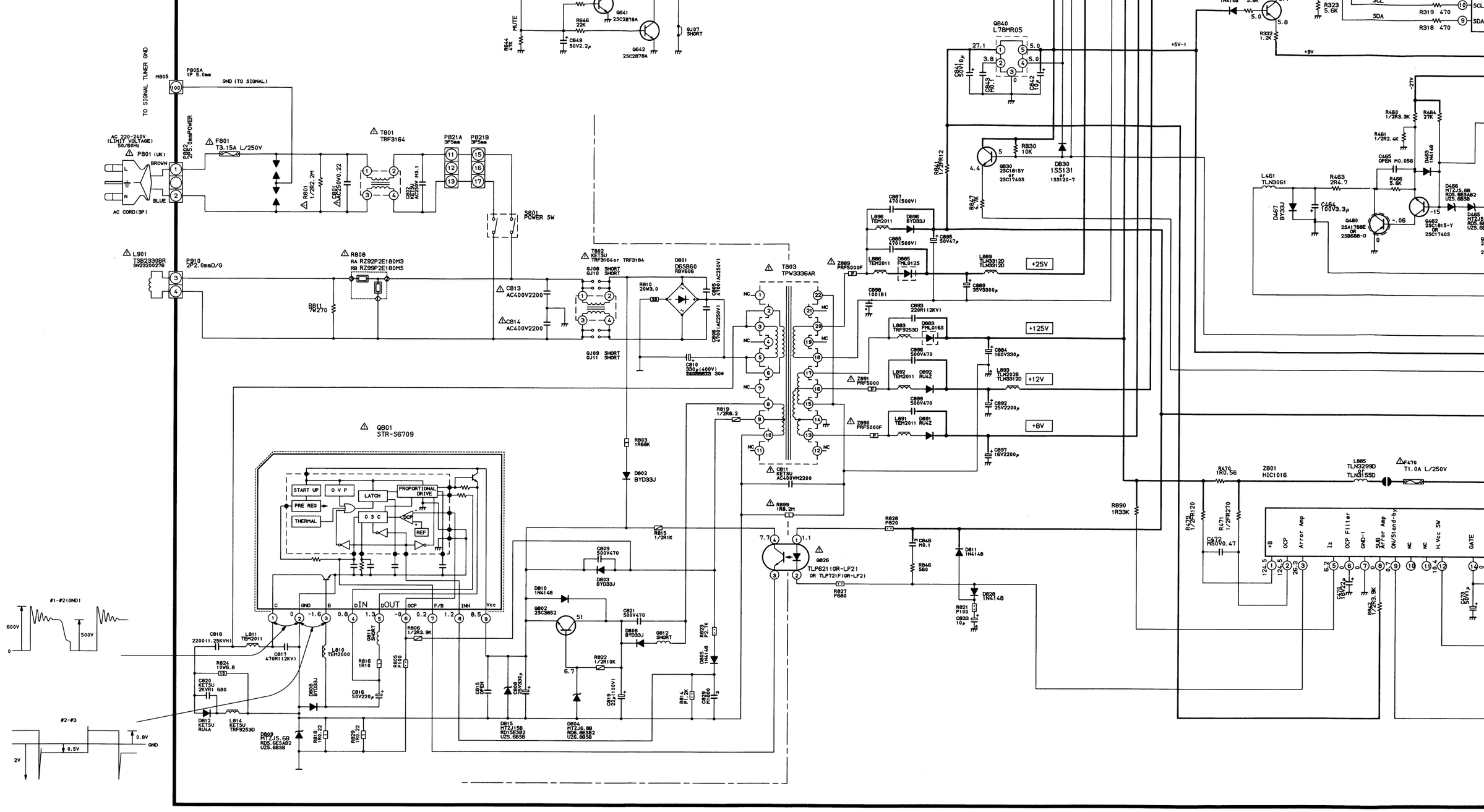
SCHEMATIC DIAGRAM MODEL: 2857DD (2/4)

U903 POWER/DEF BOARD 2857DB PB5656X
2857DD PB5656X
2857DF PB5656X




TO JUSIN
RMT IN
NC (KEY)
NC (KEY)
GND
H.VCC
WPD
V.OUT
H.OUT
GND
ABL
AFC
V BLK
SDA1
SCL1
+32V
+5V-2
Vスクロール
GND
BB80 8P
BB90 8P
R101 1W22K
1.2V(p-p)(V)
AFC
+9V
Q301 TA8427K
GND OUT IN VCC
V BLK
1.3V(p-p)(V)
P904 9P2.5mm
M903
GND
GND
NC
NC
HEATER
NC
NC
NC
+200V
TO CRT D/M
3.5V(p-p)(V)
Q302 TA8859AP
AGC RAMP T.C Vin GND SCL SDA
EHT EW Vcc EW FB GND V.FB V.D
R326 200K
C326 M6800
R314 1.0M
D306 1N4148
R315 1M
C316 M0.1
R331 100K
R316 150K
D468 MTZJ12A or UZ12BSA
C318 16V100μ
L302 PL-100μ
R330 1K
C319 1000
C330 1000
C324 M0.068
C323 M0.22
C322 50V2.2μ
C321 M0.02
R329 22K
R320 100
R319 470
R318 470
Q322 2SC2878A
Q321 2SC2878A
R324 100
R325 100K
R322 18K
R323 5.6K
R481 22K
C481 M0.1
Q470 2SC1815Y
R487 470K
R488 150K
R482 22K
R474 180K
R473 180K
C477 M0.056
C478 M0.056
GJ06 SHORT
Q420 2SC3852 OR 2SD1944H
Z895 PRF2000-5491 PRF2000F
D872 1N4148
+9V
R425 1/2R3.3K
Q421 2SC1815Y
D420 MTZJ7.5A UZ7.5BSA
R426 820
R428 560
R427 3.9K
C420 16V100μ
+12V
R303 1/2R1.5
C313 100V M0.22
C311 500V560
C314 M0.056
C309 M1000P
R301 1K
R311 3.9K
R312 15K
D301 ERB44-06
D308 ERB12-02
C320 35V100μ
C308 35V220μ
R310 1R330
D309 ERB12-02
50V(p-p)(V)
L301 TEM2011Y or TEM2011
D303 SC570A
R336 2R330
R307 360K
R306 82K
C305 50V1μ
C306 25V4700
C307 100VM0.047
R313 82K
R304 39K
R305 1R0.56
S/L
R344 KETSU 2R1.2K
R405 1R6.8K
C494 500V120
D441 MTZJ9.1B UZ9.1BSB
150V(p-p)(H)
27V(p-p)(H)
HEATER
200V
BLK
EH
EF
ES
-27V
R460 1/2R3.3K
R464 27K
R461 1/2R2.4K
C465 OPEN M0.056
D463 1N4148
L461 TLN3061
R463 2R4.7
R466 5.6K
D467 BY33J
C464 100V3.3μ
Q460 2SA1786E OR 2SB688-O
Q462 2SC1815-Y OR 2SC1740S
D466 MTZJ5.6B RD5.6ESAB2 UZ5.6BSB
D465 MTZJ5.6B RD5.6ESAB2 UZ5.6BSB
D464 MTZJ12A RD12ESAB1 UZ12BSA
+27V
R480 1/2R2.2K
R465 110K
R343 15K
R341 15K
PCB C469 OPEN
Q461 2SC1815-Y OR 2SC1740S
C341 50V0.47μ
M806A M806 1P
TO FBT GND
R372 3.9K
R370 1/2R1.0
R371 5.6K
C370 100μ(16V)
Q370 2SA1015Y
R373 1.8K
D371 1N4148
D370 MTZJ4.7B UZ4.7BSB
R211 12K
R227 6.2K
R217 1K
R208 10K
R209 10K
Q200 2SC2482
R218 8.2KG
+27V
D302 BYD33J
C310 35V2200μ
C303 500V470P
R327 2R4.7
R478 1/2R33K
C475 630V0.01
C460 35V330μ
D460 BYD33J
R469 1/2FR15
T461 TFB4115AR
HV


TO SIGNAL TUNER GND
M805
P805A 1P 5.0mm
GND (TO SIGNAL)
P802 2P5.0mmPOWER
AC 220-240V (LIMIT VOLTAGE) 50/60Hz
P801 (UK)
BROWN
BLUE
AC CORD(3P)
F801 T3.15A L/250V
T801 TRF3164
R801 1/2R2.2M
C801 AC250V0.22
C802 KET3U 400V M0.1
P821A 3P5mm
P821B 3P5mm
S801 POWER SW
L901 TSB2330BR SN2320276
P810 2P2.0mmD/G
R808 RA RZ92P2E180M3 RB RZ99P2E180MS
R811 1W270
C813 AC400V2200
C814 AC400V2200
T802 KETSU TRF3164or TRF3184
GJ08 SHORT
GJ10 SHORT
GJ09 SHORT
GJ11 SHORT
D801 D6SB60 RBV606
R810 20W3.0
C805 4700(AC250V)
C806 4700(AC250V)
C810 330μ(400V)
T803 TPW3336AR
C811 KET3U AC400VH2200
Q801 STR-S6709
START UP
O V P
LATCH
PROPORTIONAL DRIVE
PRE REG
THERMAL
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OCP
REF
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GND
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DIN
DOUT
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INH
Vcc
0
-1.6
0.8
1.3
-0
0.2
1.2
8.5
C818 2200(1.25KVH)
L811 TEM2011
C817 470R(1.2KV)
L810 TEM2000
R826 10W6.8
C820 KET3U 2KVR1 680
D812 KET3U RU4A
L814 KET3U TRF9253D
D809 MTZJ5.6B RD5.6ES4B2 UZ5.6B5B
R818 1R0.22
R822 1R0.22
R816 1R10
SW1 SHORT
C816 50V220μ
R805 P1K
R806 1/2R3.9K
D803 BYD33J
D810 1N4148
Q802 2SC3852
C821 500V470
D806 BYD33J
GJ12 SHORT
R822 1/2R10K
6.7
C819 22μ(100V)
R814 P1K
C829 M1800
R823 P2.7K
D805 1N4148
C815 OPEN
C824 2200μ
D815 MTZJ15B RD15ES8Z UZ5.6B5B
D804 MTZJ6.8B RD6.8ES8Z UZ6.8B5B
D802 BYD33J
R803 1R68K
R819 1/2R8.2
R815 1/2R1K
R809 1R0.22
C809 500V470
D803 BYD33J
R899 1R8.2M
R826 P820
C846 M0.1
R846 560
D811 1N4148
D826 1N4148
R821 P100
C833 10μ
Q826 TLP621(GR-LF2) OR TLP721F(GR-LF2)
R827 P680
7.7
1.1
Q840 L78MR05
27.1
5.0
3.8
C841 50V10μ
C843 M0.1
C842 10μ
+5V-1
RB30 10K
Q830 2SC1815Y or 2SC17405
4.4
DB30 1SS131 or 1SS120-7
R841 1/2R12
R847 4.7K
C887 470(500V)
L896 TEM2011
D896 BYD33J
C885 470(500V)
L895 TEM2011
D895 PHL9125
C895 50V47μ
Z889 PRF5000F
L889 TLN3312D
+25V
C889 35V3300μ
C886 100(B)
C883 220R1(2KV)
L883 TRF9253D
D883 PHL9165
+125V
C884 160V330μ
C896 500V470
L892 TEM2011
D892 RU4Z
Z891 PRF5000
L893 TLN3226 TLN3312D
+12V
C892 25V2200μ
C899 500V470
L891 TEM2011
D891 RU4Z
Z890 PRF5000F
+8V
C897 16V2200μ
R890 1R33K
R841 1/2R12
R847 4.7K
C841 50V10μ
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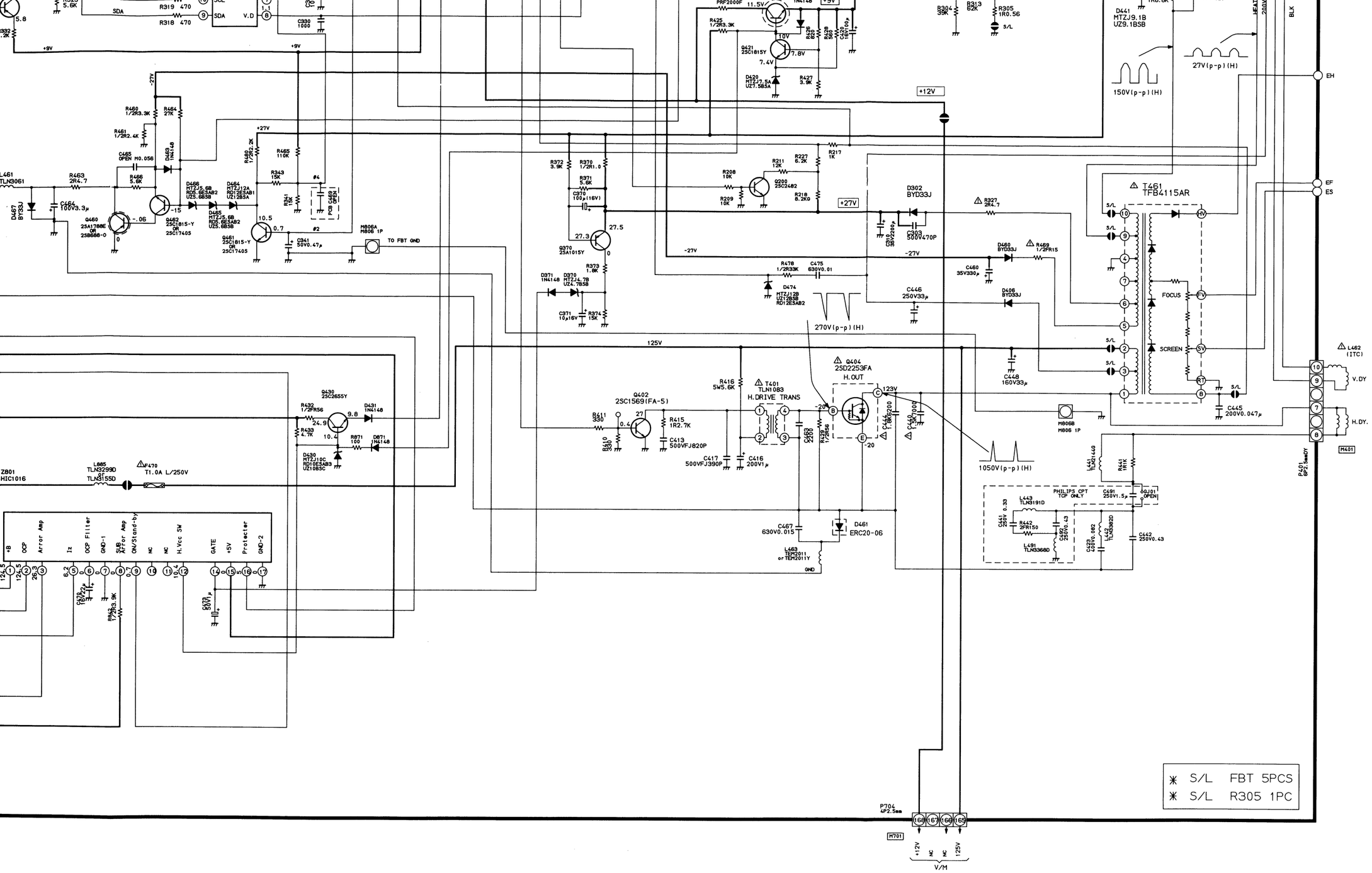
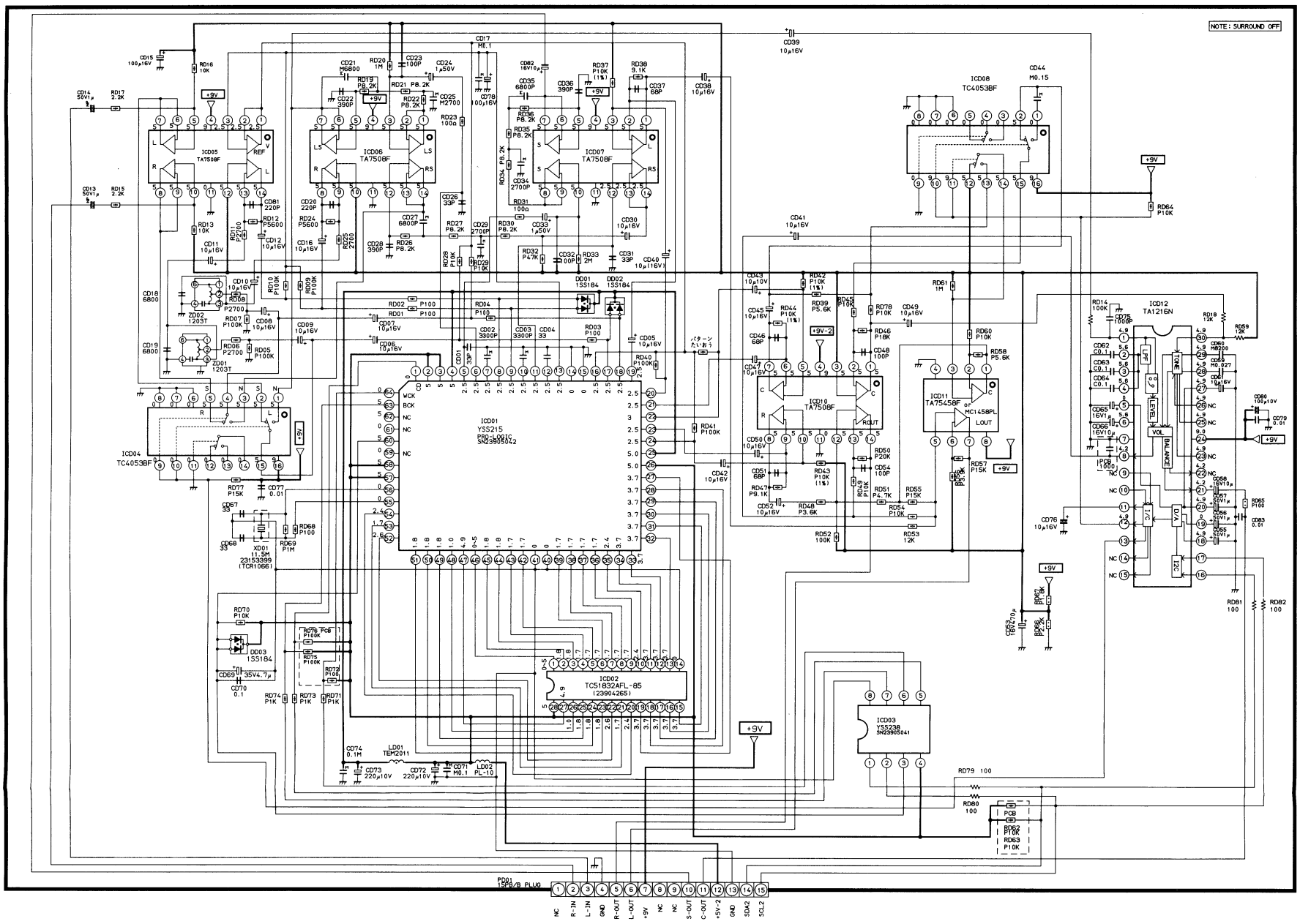
RB30 10K
Q830 2SC1815Y or 2SC17405
4.4
DB30 1SS131 or 1SS120-7

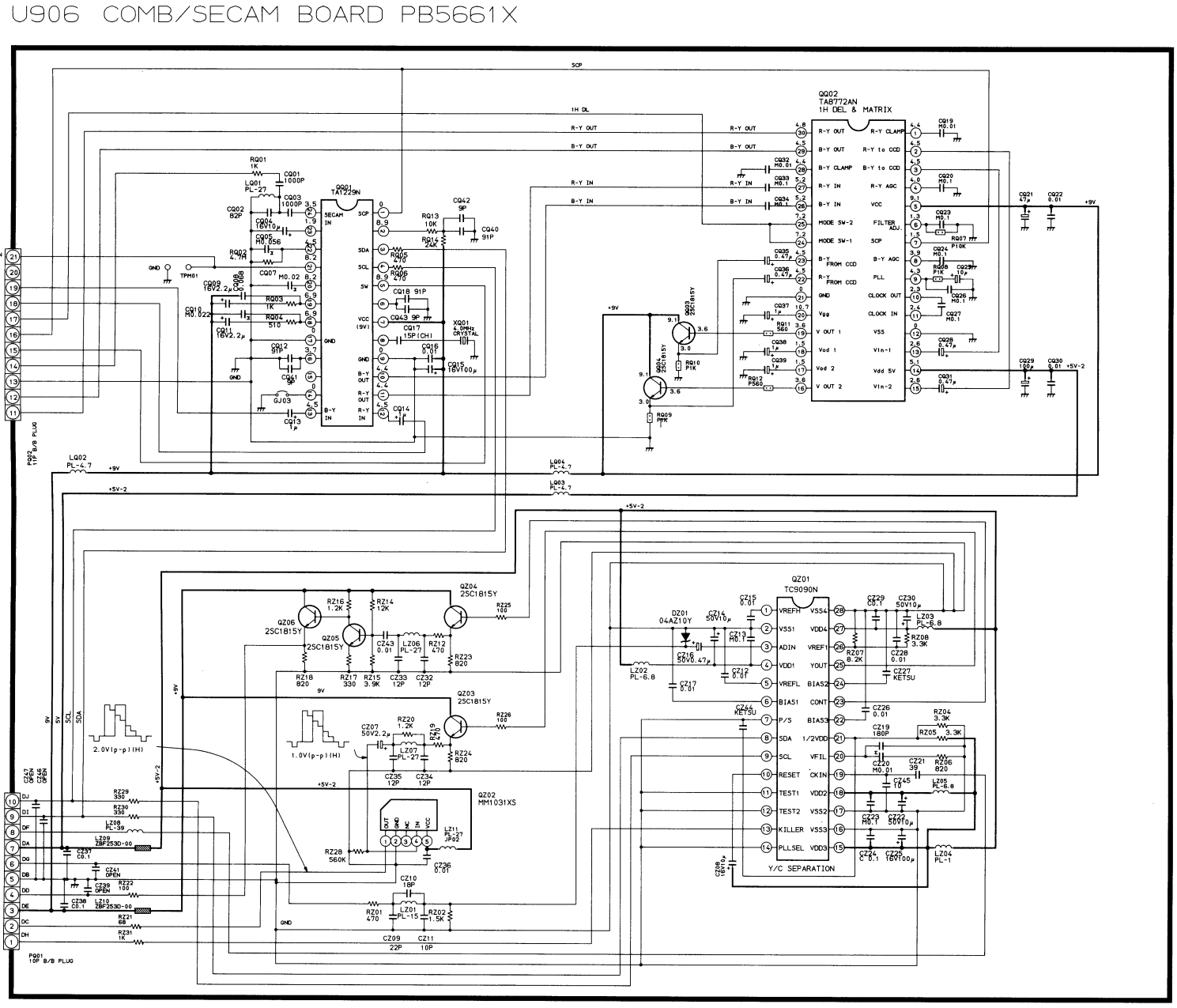

+9V
-27V
+27V
+12V
125V
SDA
SCL
V.D
R319 470
R318 470
R460 1/2R3.3K
R461 1/2R2.4K
R464 27K
C465 OPEN M0.056
D468 1N4148
R466 5.6K
R463 2R4.7
L461 TLN3061
D467 BY33J
C464 100V3.3μ
Q460 2SA1786E OR 2SB688-O
Q462 2SC1815-Y OR 2SC1740S
D466 MTZJ5.6B RD5.6ESAB2 UZ5.6B3B
D464 MTZJ12A RD12ESAB1 UZ12B3A
D465 MTZJ5.6B RD5.6ESAB2 UZ5.6B3B
R480 1/2R2.2K
R465 110K
R343 15K
R341 1K
C469 OPEN
PCB CHG
Q461 2SC1815-Y OR 2SC1740S
C341 50V0.47μ
M806A M806 1P
TO FBT GND
R372 3.9K
R370 1/2R1.0
C370 100μ(16V)
Q370 2SA1015Y
R373 1.0K
D371 1N4148
D370 MTZJ4.7B UZ4.7B5B
C371 10μ16V
R374 15K
R211 1.2K
R227 6.2K
R217 1K
R208 10K
Q200 2SC2482
R209 10K
R218 8.2KΩ
D302 BY33J
C310 35V2200μ
C303 500V470P
R327 2R4.7
R478 1/2R33K
C475 630V0.01
D474 MTZJ12B UZ12B5B RD12ESAB2
C446 250V33μ
270V(p-p)(H)
D460 BY033J
R469 1/2FR15
C460 35V330μ
D406 BY033J
C448 160V33μ
T461 TFB4115AR
FOCUS
SCREEN
C445 200V0.047μ
M806B M806 1P
1050V(p-p)(H)
L462 (ITC)
V.DY
H.DY.
M401
EH
EF
ES
HEAT
BLK
D441 MTZJ9.1B UZ9.1BSB
150V(p-p)(H)
27V(p-p)(H)
R305 1R0.56
R304 39K
R313 62K
Q404 2SD2253FA H.OUT
T401 TLN1083 H.DRIVE TRANS
Q402 2SC1569(FA-5)
R411 330
R415 1R2.7K
C413 500VFJ820P
C417 500VFJ390P
C416 200V1μ
R416 5W5.6K
R428 2R2
C463 2200P
C467 630V0.015
D461 ERC20-06
L463 TEP2011 or TEH2011Y
GND
C447 1.5K200V
C450 1000P
R441 1R1K
L441 TLN1144D
PHILIPS CPT TOP ONLY
L443 TLN3191D
C491 250V1.5μ
OPEN
R442 2FR150
L491 TLN3368D
C492 250V0.43
C493 250V0.082
L492 TLN3382D
C442 250V0.43
C441 250V 0.33
Q430 2SC2655Y
R432 1/2FR56
R433 4.7K
R871 100
D871 1N4148
D431 1N4148
D430 MTZJ10C RD10ESAB3 UZ10B5C
Z801 HIC1016
L685 TLN3299D or TLN3155D
F470 T1.0A L/250V
+B
OCP
Arror Amp
Iz
OCP Filter
GND-1
SUB Arror Amp
ON/Stand-by
NC
NC
H.Vcc SW
GATE
+5V
Protecter
GND-2
C470 16V22
R492 3.3K
C471 50V1
C472 50V1μ
P704 4P2.5mm
M701
168
167
166
165
+12V
NC
NC
125V
V/M
✳ S/L FBT 5PCS
✳ S/L R305 1PC

SCHEMATIC DIAGRAM MODEL: 2857DD (3/4)

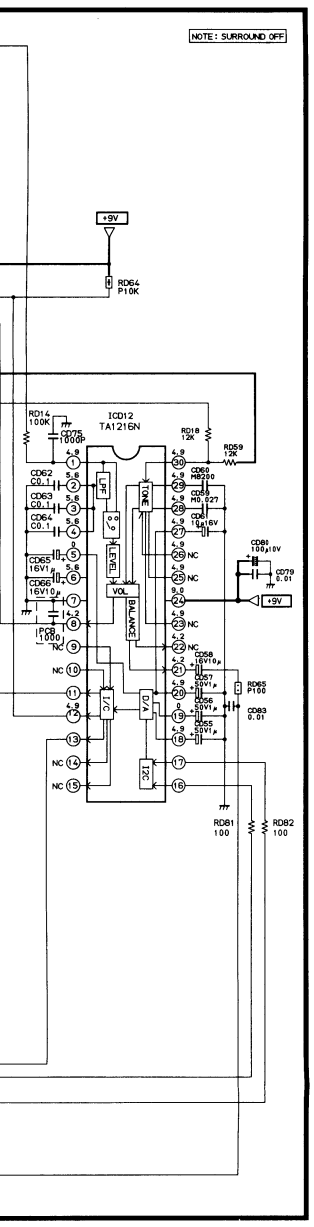
U908 PRO-LOGIC BOARD 2857DB PB5665
2857DD PB5665
2857DF PB5665

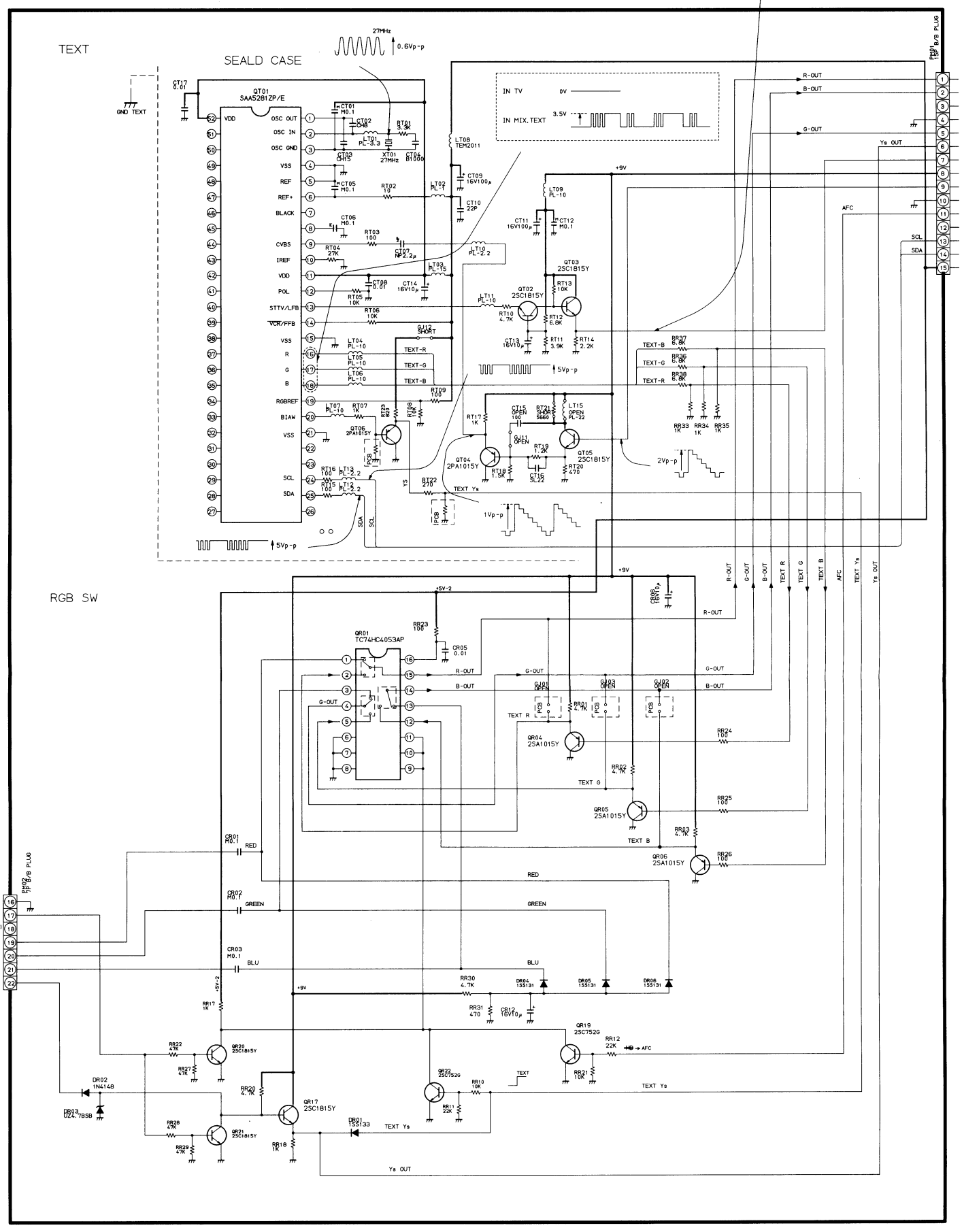


U906 COMB/SECAM BOARD PB5661X



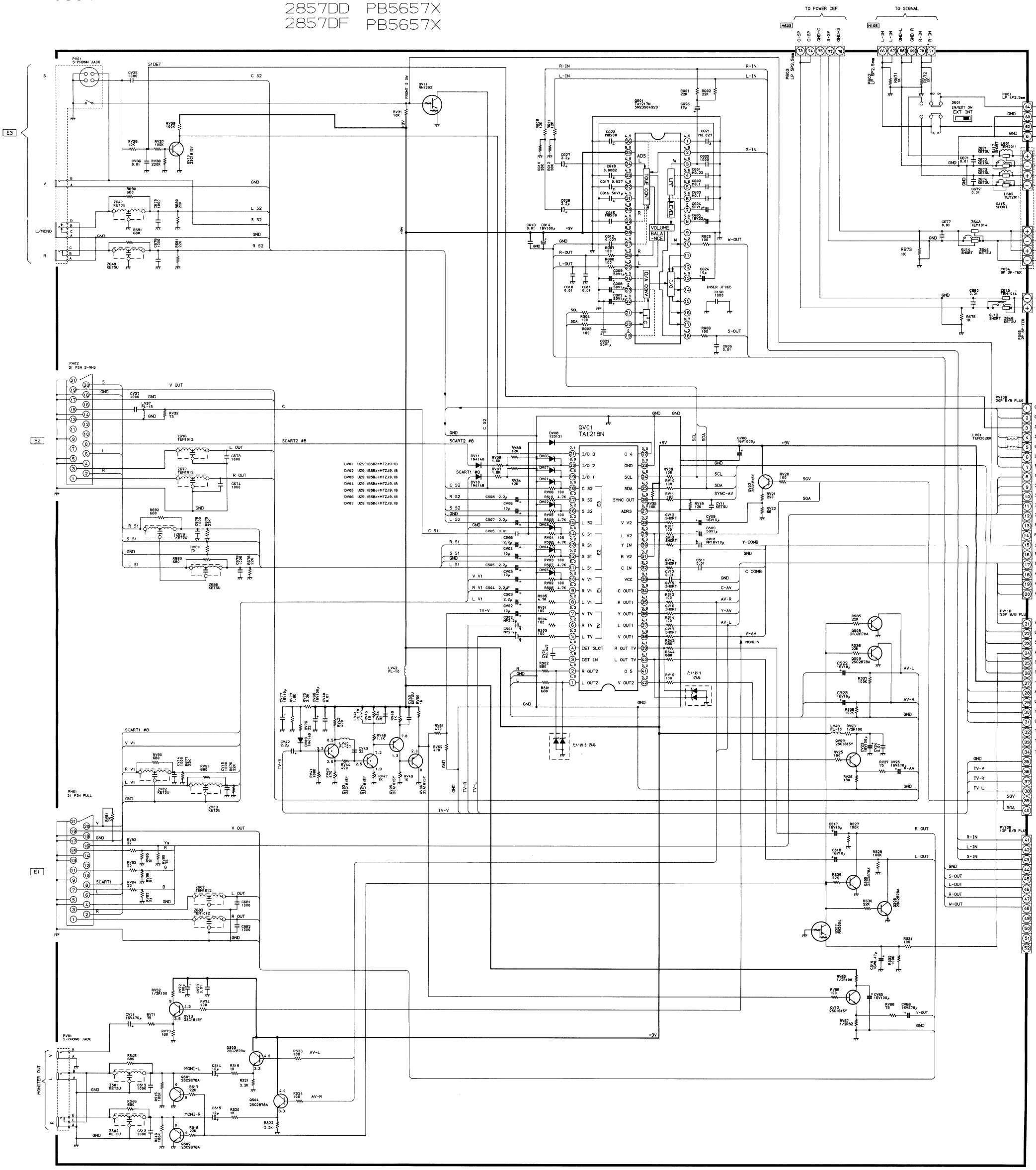
U907 TEXT/RGB SW BOARD 2857DB PB5662X
2857DD PB5662X
2857DF PB5662X



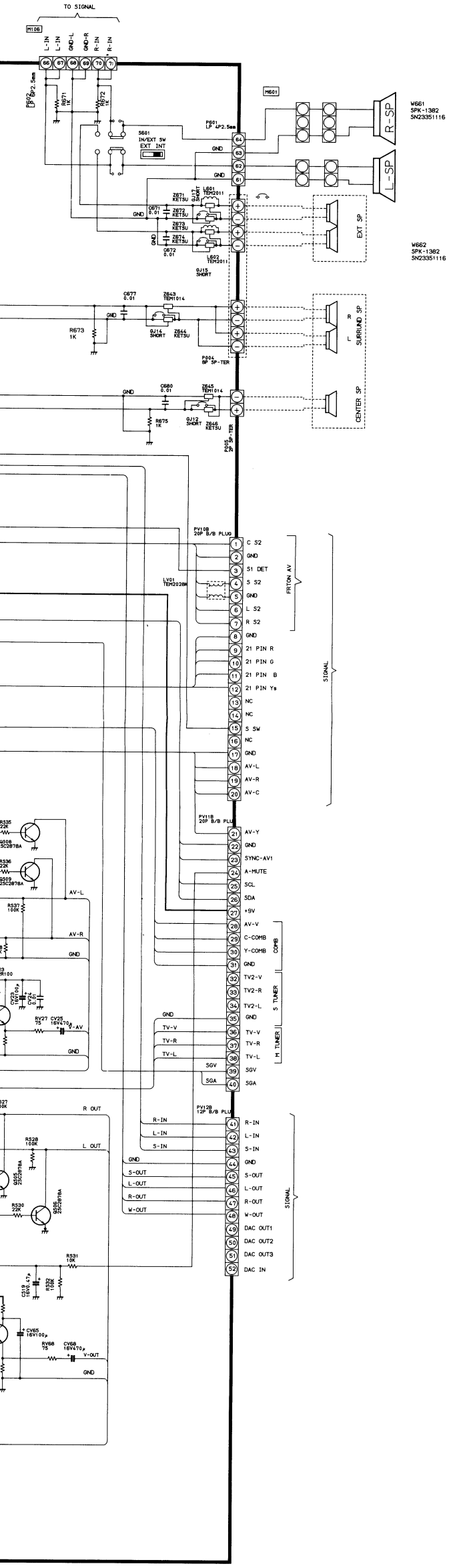


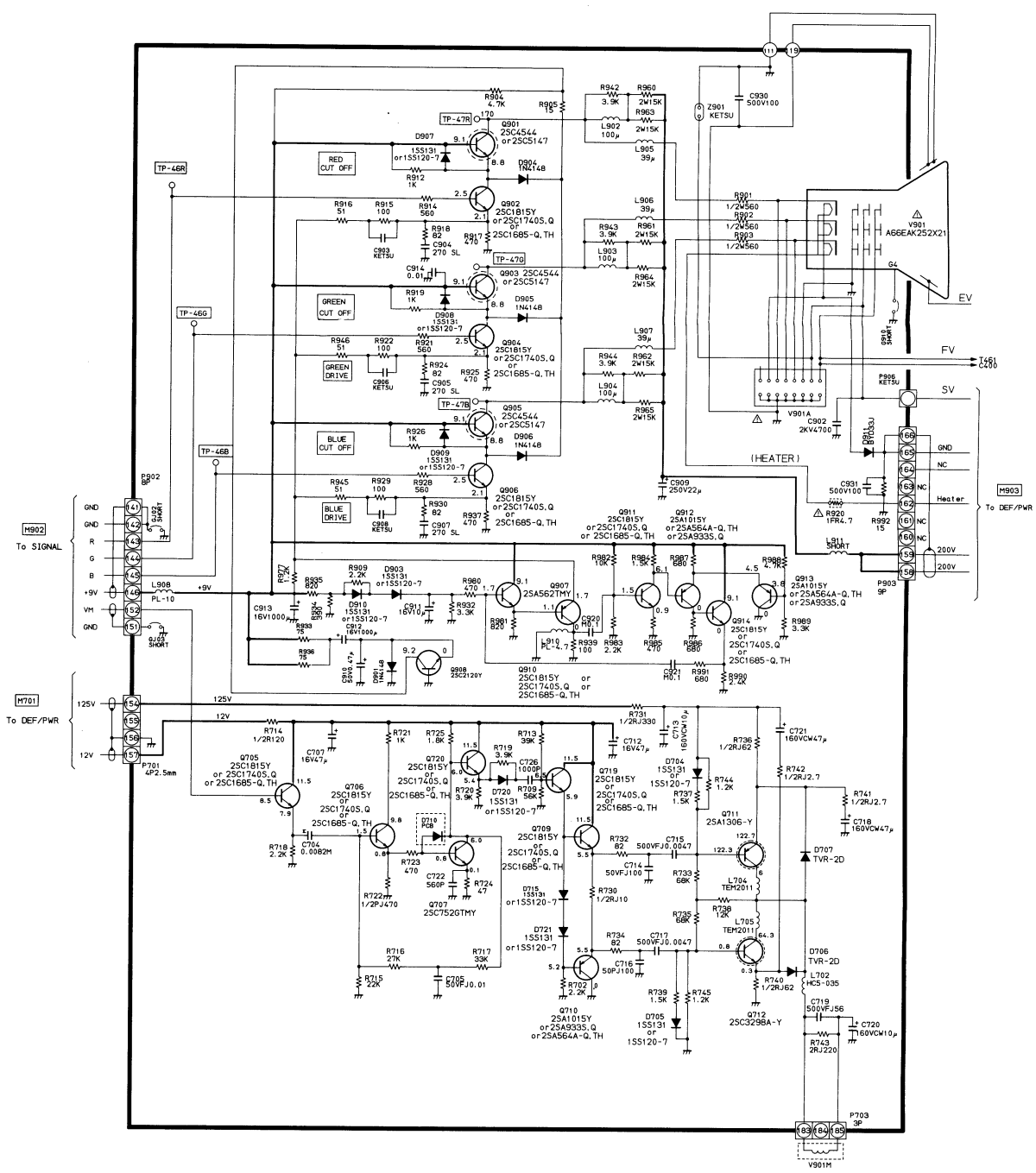
SCHEMATIC DIAGRAM MODEL: 2857DD (4/4)

U904 BACK-T AV BOARD 2857DB PB5657X
2857DD PB5657X
2857DF PB5657X



U905 CRT-D/DSM BOARD 2857DB PB5659X
2857DD PB5659X
2857DF PB5659X





SPECIFICATIONS

Input Power Rating:	115 watts (Normal), AC 220 volts, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for VHF, UHF and CATV
Receiving Channels:	PAL B/G Standard, SECAM B/G Standard: VHF ..... channels 2 to 4, 5 to 12 UHF ..... channels 21 to 69 CATV ..... X, Y, Z, S1 to S20, S21 to S41 PAL D/K, SECAM D/K Standard: VHF ..... channels 1 to 12 UHF ..... channels 21 to 69 PAL, SECAM 50 Hz/60 Hz (For Video Disk playback) 4.43 NTSC (For VCR playback), 3.58 NTSC (For VCR playback)
Intermediate Frequencies:	Picture I-F carrier frequency ..... 38.9/34.7 MHz (L VL) Sound I-F carrier frequency L System ..... 32.4 MHz (L VH, U)/40.97 MHz (L VL) B/G System ..... 33.4 MHz D/K System ..... 32.4 MHz
Picture Tube:	28 inches, A66EAK252X21, 660 mm (measured on diagonal of viewable picture area), 110° deflection
Sound Output:	10 w + 10 w (at 10% Distortion, Main) 13 w (at 10% Distortion, Woofer) 10 w (at 10% Distortion, Center) 5 w + 5 w (at 10% Distortion, Surround)
Speakers:	60 mm x 120 mm, oval, 2 pcs (Main) 100 mm, round, 1 pc (Woofer)
Aux. Terminals:	21 pin socket (FULL), 21 pin socket (S-VIDEO/AV), MONITOR OUTPUT, STEREO HEADPHONE JACK (3.5mm), Ext. Speaker terminal
Cabinet:	Table type
Dimensions:	Height ..... 569 mm Width ..... 760 mm Depth ..... 480 mm
Mass:	35.3kg
Feature:	Dolby Pro-logic surround sound, German STEREO

Specifications are subject to change without notice.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-01, JAPAN